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Rheumatic Fever and Rheumatic Heart Disease in Children

Diagnosis and Treatment

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RHEUMATIC FEVER continues to present one of the major diagnostic and therapeutic problems in medicine. While the classical manifestations of this disease have been amply described in the literature, it must be admitted that these constitute only a small portion of the entire natural history of the disease. Polyarthritides and chorea are well known. On the other hand, the most common, the most insidious, the most damaging, and the most frequently misdiagnosed manifestation of rheumatic disease, namely, carditis, has thus far escaped the formulation of clear-cut diagnostic criteria. Students in rheumatic fever feel that seven out of every nine cases of rheumatic carditis are missed in the early stages of the disease, and some feel that mild protracted carditis continues for weeks and months beyond the acute and easily recognizable phase. Since, therefore, no clear-cut criteria have been evolved to screen early carditis and mild protracted carditis, no consistent therapeutic regime has been established for this phase of the disease.

In the past ten years, detailed observations on large numbers of children with acute rheumatic heart disease were made at St. Francis Sanatorium for Cardiac Children under adequately controlled conditions. Actually, more than 5,000 patient years were observed in over 1,500 children. Many important lessons with regard to acute rheumatic

heart disease were learned from this experience:

Of these, the first and most significant lesson learned was that acute rheumatic heart disease is not as clear-cut a clinical entity as one is led to believe from the textbook description of the disease. At both ends of the so-called "classical" or textbook phase of the disease, rheumatic carditis can be shown to be present in a large number of cases. It is evident that acute rheumatic heart disease begins much in advance of the appearance of the accepted clinical and laboratory diagnostic criteria described in the literature and continues for months following the disappearance of the same criteria.

The second lesson learned from our observations was that mild carditis in the subclinical phase, when the usual clinical and laboratory criteria are absent, must be treated with the same concern as the acute explosive phase. Progressive cardiac damage is likely to occur during the smoldering phase of the disease if the patient is permitted to assume normal activities and the disease is regarded as quiescent.

These lessons stimulated the search for further diagnostic criteria of acute carditis in the hope of detecting the presence of early and mild rheumatic carditis and avoiding the error of terminating medical care before actual quiescence sets in.

History

Early in these studies it became clear that even a most careful history of the patient's illness failed to detect the presence of mild carditis. The history of early rheumatic symptoms alone, such as repeated abdominal pain, epistaxis, migratory muscle and joint pain, varies greatly with the personality of the patient and the temperament of the historian, and cannot be relied upon in screening cases of carditis in the latent and so-called quiescent phases of the disease.

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Laboratory Evidence

Blood studies, including the sedimentation rate, immunologic studies, and the usual fever curve and pulse rate records are notoriously misleading in both directions. Carditis may exist while the sedimentation rate, blood count, temperature and pulse rate of the patient, anti-streptolysin and anti-fibrinolysin titers are normal. Furthermore, many a child has unjustifiably been convicted of acute carditis because of a low-grade fever and an elevated sedimentation rate.

Clinical Picture

Pediatricians have long been familiar with the clinical picture of rheumatic carditis. The rheumatic child who retires voluntarily from vigorous physical activity, shows a high degree of emotional instability, and becomes progressively pale without a parallel drop in hemoglobin, usually presents to the trained pediatrician definite evidence of disturbance in cardiac action. The heart action sounds tumultuous; the pulse is labile. Although no evidence of cardiac insufficiency may be present, reaction to usual exercises produces more than usual fatigue. This clinical picture, in our experience, is of great help in detecting early and mild carditis in children. Students of rheumatic fever feel, however, that considerable clinical experience is needed to recognize this clinical picture with assurance.

Cardiac Findings

Cardiologists, on the other hand, contend that the clinical picture alone is insufficient evidence of carditis. Definite cardiac findings must be present to warrant such a diagnosis.

Progressive Valvular Damage.—The presence of progressive valvular disease is, in some quarters, considered as good evidence of the presence of carditis. This is a disputed issue. Some investigators feel that progressive valvular disease may be the result of cicatrization occurring during the period of quiescence. In our experience, progressive endocarditis is, in children and young adults, nearly always associated with acute carditis.

Progressive Cardiac Enlargement.—There is unanimous opinion among clinicians that progressive cardiac enlargement in rheumatic children is an unfailing sign of acute carditis. Some rheumatologists feel that a quiescent rheumatic

heart will resist dilatation and hypertrophy whatever the extent of valvular damage. Furthermore, vigorous physical exercises do not increase the size of the quiescent rheumatic heart. Our observations concur completely with these findings. Progressive cardiac enlargement in rheumatic children can always be shown to be associated with acute carditis. This diagnostic criterion, however, has an important drawback. Slight cardiac enlargement is difficult to detect and requires frequent roentgenologic follow-up. And the best x-ray method of studying cardiac size presents a high degree of error.

Congestive Failure.—There is no disagreement on the observation that in rheumatic children and young adults the advent of congestive failure occurs only in the presence of acute carditis. We have found no exception to this rule. Congestive heart failure, therefore, even in the absence of all other criteria of acute carditis in the young rheumatic patient, makes the diagnosis of acute heart disease. This diagnostic criterion, however, is a late finding, and therefore misses the vast majority of cases of carditis in children who do not show evidence of congestive failure.

Refraction to Cardiac Therapy.—The clinician of twenty-five years ago looked with great concern upon the rheumatic patient who was refractory to cardiac therapy. He suspected that rheumatic activity was present in such cases. There is at present no agreement upon this concept. Some cardiologists are of the opinion that cardiac therapy is a highly specialized form of treatment and therapeutic results are difficult to evaluate. We are very much impressed with the fact that most of the currently proposed forms of cardiac therapy, even when executed in the most meticulous manner, fail to produce the expected results in cases having acute carditis with congestive failure. A poor response to cardiac therapy in rheumatic patients, therefore, may be used as a diagnostic criterion for the presence of acute carditis.

Here again, although this diagnostic criterion can be relied upon in making a diagnosis of acute carditis, it misses the larger number of patients with carditis without congestive failure.

Electrocardiographic Findings

In recent years this field has been extensively, yet inconclusively explored with the aid of the

electrocardiograph. Considerable difference of opinion, however, exists with regard to the frequency of electrocardiographic abnormalities in patients suffering from acute rheumatic disease. The percentage incidence of electrocardiographic abnormalities ranges from 22 to 100 per cent in various studies.

The evidence presented is, in the main, of three sorts:

1. The duration of the A-V conduction time is increased though not always.
2. There is frequent alteration in the ventricular complex, either the QRS, the S-T segment, or the T wave.
3. Irregularities occur in the cardiac rhythm.

It is pointed out that most electrocardiographic findings are transient and bear no clear-cut relationship to the clinical findings. Some alterations become fixed and cannot, therefore, be used as criteria for active carditis. These findings seem to point to an inadvertent attempt to correlate electrocardiographic findings with the histopathology of rheumatic myocarditis. Few studies take into clear account the pathologic physiology mirrored in the cardiogram in the acutely inflamed heart muscle.

Physiologists have always contended that a disturbance in time relationship of systole and diastole is a manifestation of impairment of the functional integrity of the myocardium. Wiggers and Clough found consistently that the period of systole was of longer duration in functional cardiac disorders. Katz has stated that the duration of the systole in the diseased heart as compared with the normal heart would give a method of determining the functional integrity of the myocardium. Bazette concluded from his evidence that the duration of the systole in the abnormal heart may prove a measure of dilatation.

Although the physiological principals underlying the significance of the disturbance in the electrical sequence of events in the cardiac cycle are clear, there is a wide difference of opinion among clinicians as to the clinical significance of this disturbance.

This discordance of opinion may be explained by the fact that the groups of patients studied by various investigators were not parallel cases. Those who have studied patients with acute myocardial disturbance always were impressed with the prolongation of the electrical systole. On the

other hand, those investigators who examined the electrical systole in patients with structural cardiac defects, but without active myocarditis, found no such prolongation.

Our investigation was made in children suffering from acute rheumatic carditis. This investigation would seem to show that the disturbance in the relationship of systole to diastole in the cardiac cycle is a sensitive diagnostic index of acute carditis. The observations showed that:

1. The duration of electrical systole (QT), both absolute and relative to diastole, was significantly prolonged in all our cases of acute carditis.
2. This prolongation of the electrical systole was found to be a function of the severity of carditis and not that of cardiac rate.

Summary

In summary, therefore, our experience with acute rheumatic carditis clearly demonstrates that current laboratory criteria which are present during the acute toxic stage of rheumatic disease are inadequate in screening mild carditis in the latent period or in arriving at a decision as to when carditis has finally ceased.

Evidence of progressive heart disease, in our experience, is a certain manifestation of acute carditis, but it is a late finding and therefore misses all the early cases of carditis. The disturbance in the time relationship of systole to diastole, long recognized by physiologists as evidence of the impairment of the functional integrity of the myocardium, is, in our opinion, the most sensitive index of the presence of carditis in rheumatic children in the latent phase and signifies the continued presence of carditis after all other clinical and laboratory manifestations have subsided.

Therapeutic Regimen

Using these criteria as our diagnostic pattern, we have for some years treated rheumatic carditis in a specific manner. The therapeutic regimen which we evolved is predicated upon the following concepts:

1. Acute rheumatic heart disease is of much longer duration than the clinical symptoms would seem to show.
2. The degree of functional cardiac disability is in the vast majority of patients a manifestation of the severity of the active inflammatory process

in the heart muscle and not a measure of the extent of valvular damage.

3. Adequate and complete care during the active period of carditis not only minimizes the total cardiac damage but also prevents reactivations or recrudescences

Latent Phase

The latent phase during which the patient does not demonstrate clinical criteria of rheumatic carditis is, in our experience, completely refractory to treatment. All measures proposed to prevent the acute phase were attempted in a significant number of cases but failed to prevent the explosive or acute phase of the disease.

Acute or Active Phase

Polyarthritis.—To limit the early exudative process, salicylate therapy, in our experience, is the treatment of choice. It does not simply modify the symptomatology of rheumatic fever, but distinctly and significantly changes the course of the disease if given in adequate dosage and during the early exudative stage of the disease.

The point to be stressed is that whatever form the explosive phase of the disease takes, the treatment must be directed toward limiting the exudative process rather than toward the treatment of the organ or set of organs involved.

Chorea.—For the present, the treatment of chorea is entirely symptomatic, and no clear-cut evidence can be obtained to show that by relieving the symptoms of choreas one influences the course of the disease in regard to cardiac damage.

Carditis.—Of far greater importance from the therapeutic standpoint is the management of rheumatic carditis. As mentioned above, acute rheumatic disease is first and foremost a disease of the heart; the degree of functional cardiac disability is a manifestation of the severity of the acute inflammatory process in the heart muscle rather than the extent of valvular damage. Thus the management of the acute phase of rheumatic disease is aimed mainly at the treatment of acute carditis and its sequellae.

The forms of therapy which we will discuss are well known but the method and the timing of their application are in some respects new and have been evolved as a result of a ten-year experience with rheumatic carditis in children and young

adults observed under the adequately controlled conditions of a sanatorium.

At the very beginning of this experience, it became obvious that acute rheumatic heart disease cannot be treated as a single entity. It became clear that this phase of rheumatic disease consists of various stages which are distinct in their manifestations and often follow each other in sequence.

In the planning of a therapeutic regimen for the various phases of acute heart disease, we considered three methods of approach:

1. The environment under which the patient is being treated.
2. The nutritional requirements.
3. The specific medication.

Salicylates.—In our experience, massive doses of salicylates when administered during the period of invasion may be considered in the nature of a specific form of therapy. When this form of therapy is instituted during the first six weeks from the onset, the acute onslaught of the disease is interrupted in more than 80 per cent of all cases. All clinical and laboratory evidence of activity subside, and the patient makes a complete recovery.

Oxygen.—Once the patient has passed the acute stage and has settled down to the protracted smoldering phase of carditis, salicylate therapy no longer produces any therapeutic effects. At this stage of the disease, oxygen therapy is the treatment of choice. Five years of experience with this form of therapy provide convincing evidence to show that:

1. Oxygen therapy given at this phase of the disease diminishes significantly the cardiac overactivity and removes the annoying symptoms of cardiac fatigue.
2. This symptomatic relief enhances relaxation, sleep, nutrition—all of which contribute to a rapid and more satisfactory recovery.
3. The incidence of congestive heart failure in this group is significantly smaller than in the group deprived of this form of therapy.
4. Total cardiac disability resulting from protracted carditis is measurably diminished.

When the patient begins to present signs of congestive failure, so-called cardiac therapy must be used with great caution.

Digitalis.—We have rarely observed any beneficial effects from digitalis therapy in acute pancarditis with heart failure. Our experience with the use of digitalis in this group of cases would seem

to warn strongly against it. Similarly, when the presenting symptoms of cardiac insufficiency are those of left-sided failure, the depression of the ST segment and inversion of the T wave on the electrocardiogram, as well as premature ventricular contractions, occur early in the course of digitalization, and complete digitalization can rarely be carried out before intoxication becomes manifest. In rare instances in which the patient shows signs and symptoms of almost true right heart failure, digitalis seems to produce desired beneficial effects in some cases.

In our experience, about one out of every two cases with acute carditis with auricular fibrillation can be controlled with digitalis. The other half of the cases continue to be characterized by a fast ventricular rate with a marked pulse deficit in the presence of adequate digitalis therapy. Further digitalis therapy in this group is accompanied by definite cardiographic and clinical evidence of digitalis intoxication.

Mercurial Diuretics.—Our experience coincides with the experience of other observers that when mercurials are properly applied, they take the place of digitalis in acute heart disease. During the first two phases of the disease it is of questionable value, but during the phase of depletion of cardiac reserve, it is of specific therapeutic importance. Left heart failure cases can be treated most effectively with the use of mercurials alone. Frequent small doses given intramuscularly must be continued until dry weight is attained, and from then on the patient is placed on a maintenance dose of mercupurin or merchydryn until all evidence of acute heart disease has subsided. It is important to remember that mercurials are continued not only until evidence of congestive failure has disappeared but until all evidence of rheumatic activity is no longer present. This form of therapy may have to be continued for many months.

Concentrated Glucose.—The use of concentrated glucose in heart disease has been tried from time to time and has received encouragement from the work of Schwentker and Noel with diphtheretic myocarditis. In animals in whom diphtheretic myocarditis has been produced, the use of concentrated glucose with oxygen seemed to have changed the course in favor of the animal. The physiological explanation is not clear and need not be gone into here.

In our experience, in cases of so-called "irrevers-

ible" heart failure where the toxic element of the disease is high and at the same time the cardiac reserve is extremely low, a few cases are definitely improved by the use of concentrated glucose.

In summary, therefore, it may be said that while the "specific" medication used in this program is old, its method of application is somewhat novel. We are impressed with the fact that *salicylates* are almost a specific form of therapy when used during the stage of invasion. *Oxygen* belongs in the same category if used only in the stage of protracted carditis without heart failure. *Mercurial diuretics* have almost displaced the use of digitalis in acute heart failure. *Digitalis* finds limited use in active rheumatic heart disease but may be tried in cases where the dominant feature is right heart failure. The proposal of the use of concentrated glucose with oxygen and insulin is made with misgivings. It seems that a few of the so-called irreversible heart failure cases do well with this form of therapy.

Quiescent Phase

There remains the phase of rheumatic fever known as the quiescent phase. In our opinion, it would seem that the treatment of the rheumatic patient in the quiescent state is more of a psychological and emotional problem than a medical problem. For this the co-operation of the various allied health and educational agencies constitute an important part of the community effort on behalf of rheumatic disease.

On the medical side it is our experience that quiescent rheumatic children and young adults are overtreated rather than neglected. Unnecessary prohibitions establish psychological problems more difficult to manage than rheumatic disease itself. There is general agreement that a quiescent rheumatic heart in the vast majority of instances has normal cardiac reserve and the patient need not be limited in any of life's activities.

Conclusion

In summary, our experience with the treatment of the rheumatic fever patient presents the following observations:

1. The latent period of rheumatic disease remains for the present without effective therapy.
2. The acute phase of the disease must be treated in a specially prepared environment known as the sanatorium type of care. Here the acute

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Group A Streptococcal Infections and Rheumatic Fever

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THE RELATIONSHIP of hemolytic streptococcal infections to the etiology of rheumatic fever has not as yet been universally accepted by physicians and the general public. Most students of this disease, however, believe that both the initial attack and subsequent recurrences of rheumatic fever are invariably preceded by hemolytic streptococcal infections of the upper respiratory tract, but no adequate explanation of the exact role played by the streptococci is available at present.

In an attempt to evaluate the connection between the primary infection and the rheumatic sequelae, a total of 153 rheumatic and non-rheumatic subjects who suffered 169 definite hemolytic streptococcal upper respiratory tract infections were studied over a period of years. Group A streptococci caused 162 of these infections; group C, six; and Group G, one. No cross infections occurred and in no case did the same serological type of group A streptococcus cause two separate infections in the same patient. Of these infections 102 were uncomplicated; twenty-nine were followed by purulent complications due to the same strain causing the original infection; and thirty-eight were followed by rheumatic fever, including four with purulent complications. Rheumatic recurrences developed seventeen times (31.4 per cent) as a result of fifty-four streptococcal infections in thirty-nine previously rheumatic subjects. On the other hand, primary attacks of rheumatic fever resulted from twenty-one (18.3 per cent) of the 115 streptococcal infections suffered by 114 previously non-rheumatic individuals.

Rheumatic manifestations followed only those upper respiratory infections due to group A hemolytic streptococci; among these no special serological type of streptococcus was found associated either with rheumatic fever or with purulent complications of the original infections. None of the seven infections due to streptococci of Group C and G led to rheumatic sequelae, although five

of these occurred in patients who were rheumatic susceptibles since they previously had rheumatic fever. Many of the rheumatic subjects suffered a number of non-streptococcal diseases such as rubella, rubeola, herpes zoster, bacillary dysentery, appendicitis, acute epidemic conjunctivitis, pneumococcal pneumonia, primary atypical pneumonia and upper respiratory tract infections of unknown etiology; but in no instance was rheumatic fever observed following these non-streptococcal infections.

One phase of the study was undertaken to ascertain whether serum antibody patterns of patients who developed rheumatic fever differed from antibody responses of patients who failed to develop any sequelae following their group A streptococcal infections. Antistreptolysin O, antifibrinolysin determinations, type specific bacteriostatic antibody, type specific anti-M, group specific anti-C, and nucleoprotein precipitin titres were done weekly on sera of these patients. Significant rises of antistreptolysin O occurred in 77 per cent, antifibrinolysin in 73 per cent, bacteriostatic antibodies in 76 per cent and anti-M precipitins in 64 per cent of all the infections. Three different streptococcal antibodies were demonstrable in the sera of 50 per cent of the patients, and one or more of the several antibodies investigated were found during convalescence in every patient studied. The rheumatic fever patients showed rises in antistreptolysin O, antifibrinolysin and type-specific antibodies more frequently than patients who developed purulent complications or those who made uneventful recoveries. Patients with purulent complications, however, showed the greatest increases in antistreptolysin O titre.

A slight delay in the beginning of the rise of type specific bacteriostatic antibodies and anti-M precipitins, as well as a similar delay in reaching the maximal level of antistreptolysin O, was observed in the group of rheumatic fever patients as compared with patients who developed purulent complications or those who made uneventful recoveries. Because marked variations among individual patients were found in each group studied it is questionable whether these findings are significant. The significance of the enhancement of general antibody formation in rheumatic fever patients, as compared with the patients who escaped rheumatic sequelae following their streptococcal infections, is difficult to evaluate, but the differences may be due to the continued inflam-

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mation in the tissues of the patients with rheumatic fever. It is noteworthy that the rheumatic fever patients developed antibodies in a high degree to a variety of streptococcal antigenic components, which is added evidence that these group A streptococcal infections are closely related to rheumatic fever.

In view of the fact that only a few individuals develop rheumatic fever following group A streptococcal infections, it appears probable that the occurrence of this disease involves peculiarities of the host-parasite reaction to the infection not made apparent by the immunological techniques which we employed. It was thought that these abnormalities might be brought out by means of electrophoretic studies. A systematic investigation was therefore made of the pattern of the serum proteins of representative samples of the patients. Weekly samples of sera from the onset of the infection throughout convalescence and recovery were studied by electrophoresis in three patients who developed acute rheumatic fever, one who had a purulent complication, and two who had no sequelae following group A streptococcal infections. Marked changes from the normal serum protein pattern were found in both the rheumatic and non-rheumatic patients. An early depression of albumen with rises in α_1 and α_2 globulins and a delayed rise in the gamma globulin were noted. These abnormalities were more prolonged in the rheumatic patients. No significant alterations were observed to distinguish the rheumatic fever patients from those who did not develop the disease. The more marked abnormalities of the serum proteins of the rheumatic group of patients was probably due to the pathological disturbances found with the persistent inflammatory reaction. Nevertheless, these findings bring further evidence of the connection between rheumatic fever and the hemolytic streptococcal infection in view of the qualitative similarity of the over-all serum protein patterns of both the rheumatic and non-rheumatic fever patients.

Still another phase of these investigations was directed toward an electrocardiographic study of 110 young adult patients with scarlet fever, all of whom had large numbers of group A streptococci cultured from their throats. Nineteen of these patients developed pronounced electrocardiographic abnormalities similar to those seen in patients with active rheumatic fever. Eight of the nineteen patients in whom electrocardiographic ab-

normalities developed in the convalescent period had definite attacks of acute rheumatic fever. Four others developed mild and transitory rheumatic-like signs and symptoms. The remaining seven, who during a comparable period in their convalescence developed abnormal electrocardiographic changes, had no symptoms of rheumatic fever. The difference between these three groups of patients is in reality one of intensity. All apparently suffered from the same tissue injury that is characteristic of rheumatic fever.

These data provide additional supportive evidence for the thesis that rheumatic fever is related to hemolytic streptococcal infections, but they are also of further significance in that they provide an adequate explanation for the 30 per cent of patients with rheumatic heart disease in various clinics who fail to give a definite history of rheumatic fever. These patients probably had experienced carditis without polyarthritis associated with rheumatic fever, and the disease process went unrecognized following their upper respiratory tract infection. Moreover, it is of interest to note the studies of Levy, Stroud, and White who reported that about 68 per cent of rejected draftees with rheumatic valvular heart disease failed to recall having had rheumatic fever or chorea. It is quite possible that these rejected subjects had mild unrecognized rheumatic fever following hemolytic streptococcal infection similar to that in the patients described in this report.

The apparent relationship between rheumatic fever and group A streptococcal infections is best illustrated by the prevention of infection by sulfonamide or penicillin prophylaxis with the resultant failure of recurrences of rheumatic fever in rheumatic subjects. In control patients, however, who did not receive chemoprophylaxis rheumatic recurrences developed following streptococcal infections. A marked decrease in incidence of new cases of rheumatic fever was also observed among army and navy populations during streptococcal epidemics controlled by sulfonamide prophylaxis.

Although large therapeutic doses of sulfonamides and/or penicillin are of no value in rheumatic fever once the disease manifests itself, the possibility that adequate doses of penicillin early in the streptococcal phase may inhibit the chain of events which lead to rheumatic fever must be considered. This is emphasized since it has been

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The Physician and Community Action for Rheumatic Fever

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RHEUMATIC FEVER has been generally accepted as a major public health problem. In an increasing number of communities, both the medical profession and the public are ready to engage in organized activity to find cases and to provide adequate treatment; in fact, they are willing to make any logical move toward control over this important cause of heart disease. The rheumatic fever control program under the sponsorship of the Michigan State Medical Society places the state near the top of the list in the nation in its organized effort to combat fatalities and crippling in those with the disease. In this paper I wish to discuss why such organized activity is necessary and how it may be carried out. For intelligent community action, three things are basic: (1) professional leadership, (2) facts showing the magnitude and relative importance of rheumatic fever, and (3) a plan.

Perhaps at this point you wonder what this has to do with the practicing physician. As a clinician your primary concern is with the individual. When you are at the bedside, puzzled by a syndrome suggestive of rheumatic fever, it is of little help to know facts and figures on the severity, prevalence and incidence of new cases, or what agency representatives should be invited to a meeting to discuss case-finding, or to co-ordinate treatment services, or to develop a well-rounded community program.

Adequate care of the patient with this chronic disease is only partly a medical problem. The solution as a rule requires the services of many other professional individuals and agencies. *When* these services are to be brought to the patient, only the physician can decide. *How* they are to be made available, often requires facilities and funds from the community. The mobilization and strategic delivery of these services necessitate planning and organization. In this, too, the physician

and his medical society can and must play a leading part.

Public Health Importance

Why is rheumatic fever a public health problem, and why is all this organized effort necessary? The American Council on Rheumatic Fever of the American Heart Association, a voluntary agency made up of delegates from many national organizations, including the American Hospital Association, the American Public Health Association, and the American Medical Association, recently pointed out that the following facts made rheumatic fever a public health problem.¹

1. Infection with epidemic strains of group A hemolytic streptococci usually occurs a few days to several weeks prior to the onset of clinically evident rheumatic fever. The control of hemolytic streptococcal infections has long been generally accepted as a public health responsibility. Little progress can be made with regard to the rheumatic fever problem, unless this be accepted. In planning for the care of individuals with rheumatic fever and rheumatic heart disease, protection from epidemic hemolytic streptococcal infections is of primary importance and, with our present knowledge, represents the only way in which repetitive attacks, or recurrences, may be prevented.

2. Rheumatic fever requires several professional services and the utilization of varied types of facilities, if our full knowledge is to be applied in an effort to minimize the ill effects of the disease. Only by careful planning can services be made available for the various needs of the individual with rheumatic fever.

3. An attack of rheumatic fever usually lasts several months, often longer. Since the disease occurs most often in the low to moderate income groups, an economic problem of considerable proportion results. When progressive or recurrent, rheumatic fever presents a catastrophic economic burden to most families.

Magnitude of the Problem

Another reason why the disease is of public health significance is the contribution of rheumatic fever and rheumatic heart disease to mortality and morbidity. A conservative estimate⁴ places the number of persons in the United States less than fifty years of age who have rheumatic heart disease at about 600,000. This figure represents, of course, chronic cases as well as new ones.

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COMMUNITY ACTION FOR RHEUMATIC FEVER—WHEATLEY

Incidence of New Cases

There are very meager data on the number of new cases of rheumatic fever which develop each year in the general population. One of the few studies on a large scale has been reported recently by Collins³ of the U. S. Public Health Service. He finds approximately thirty-five cases of rheumatic fever for every 100,000 individuals less than twenty-five years of age. In addition, there are seventeen cases of chorea and forty-six cases of heart disease for each 100,000 persons less than twenty-five years. The incidence of new cases of all three conditions was definitely greater in large cities than in small cities and towns. The highest rates were in the West, next in the North, and lowest in the South.

Using these rates, we estimate for the country as a whole the number of new cases of rheumatic fever and heart disease at ages five to twenty-four to be about 30,000 cases per year. Included in this number are probably more than 20,000 children and young persons who develop rheumatic fever. Among children and young adults in Michigan, on the basis of these calculations, between 2,000 to 3,000 new cases of rheumatic fever, including chorea and heart disease, could be expected annually. These are believed to be minimum estimates.

Mortality in Young People

Mortality data are another index of the public health importance of the disease. Nearly all deaths from heart disease among persons who are five to twenty-four years of age are due to rheumatic heart disease. For this reason, the total cardiac mortality during this age period provides a minimal expression of the general mortality from rheumatic heart disease. We have recently studied the mortality among our white industrial policyholders, ages five to twenty-four, for the four-year period, 1942-1946, and find the order in the leading fatal diseases at these ages to be that shown in Figure 1.

Rheumatic fever and heart disease caused more than 13 per cent of all fatal disease in the period 1942-1946 in the five to twenty-four age group. The chart shows clearly that rheumatic fever ranks high as a cause of death throughout childhood. It is now second among diseases at ages five to nine. It will surprise many that malignancies cause more deaths than any other disease in this age group in our urban population today.

At ages ten to nineteen, rheumatic fever holds first place among the diseases, and second rank at twenty to twenty-four.

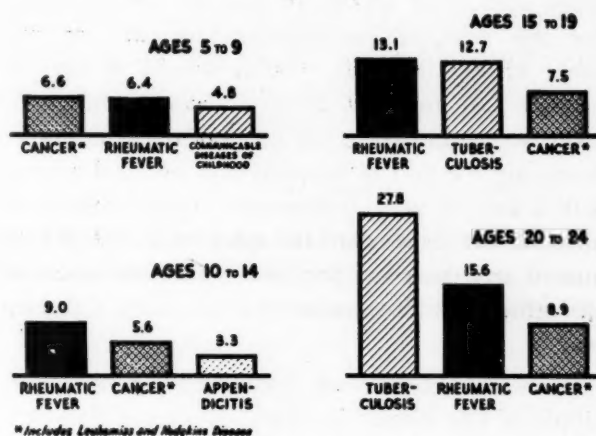


Fig. 1. Leading fatal diseases of young people. Death rates per 100,000 from 1942 to 1946.

Disability

The magnitude of a disease, especially a chronic one, is measured less perhaps by immediate mortality than by its disabling effect. We know that rheumatic fever and rheumatic heart disease cause a tremendous amount of disability and require long and costly care. In the morbidity studies of Collins,³ previously mentioned, rheumatic fever patients less than twenty-five years of age who were sick prior to the study year had an average disability of more than six months. The average duration in the hospital for all cases found in the survey was fifty-one days. More than 40 per cent of the rheumatic fever cases were disabled two months or longer during the study year. Many were evidently cared for at home or had a relatively short hospital stay because only 30 per cent of the cases went to a hospital at any time during the study year and less than 8 per cent of those confined to bed were in a hospital two months or more during that year. Fifty-nine per cent of those incapacitated by rheumatic fever were cared for by private physicians, who averaged nearly thirteen visits, most of them house calls, during the study year. More than a fifth of the rheumatic fever cases who had home calls had twenty or more such calls. In slightly more than 10 per cent of the cases, a visiting nurse was used, and practically none had a private duty nurse.

When one considers that this is only a partial picture of the care received or required by this group of new cases, that the likelihood of recurrence is greatest for the group as a whole in the

year following, and that many individual members of the group will continue to require treatment for years to come, one begins to visualize the enormous amount of treatment and the cost necessary for the adequate management of this or any other chronic disease. What would it cost to provide care for only the new cases of rheumatic fever we might expect for the country as a whole? Assuming the cost of hospital and medical care at \$10 a day—a very conservative figure today—to provide fifty days care for each of the 20,000 estimated new cases in the five- to twenty-four-year-old group would amount to ten million dollars a year.

Even from these crude measurements, the magnitude of this disease is clear. Rheumatic fever is a major public health problem.

Community Organization

All of us who read General Eisenhower's lucid book "Crusade in Europe" cannot help but be impressed with the complexity of modern war. The degree of specialization directed toward the common objective of winning the last war has practically no comparison in peacetime living. Organizing these special skills and services of the allied arms and meshing them together to achieve a unified command and harmonious operation was an almost superhuman task. The specialization and wide variety of new skills and services which are associated with the practice of modern medicine present a situation comparable in some aspects to the complexity of waging modern warfare. We find this most evident in the management of chronic diseases, such as rheumatic fever and heart disease. In this war the purpose is to assure the application of those areas of medical and public health knowledge which will minimize disease, disability and death from rheumatic fever and heart disease and related illnesses. To find cases of rheumatic fever early, to bring diagnostic and treatment services to those who need them, and to keep patients under medical supervision require a high degree of inter-professional team play.

To achieve this necessary integration and correlation of function and service, we² suggested several years ago that the technique of community organization be used. What is community organization? It is a process used consciously or unconsciously in many fields of human activity—in politics, in art, in education, in economic life. Whenever individuals and groups seek ways to pool their

resources and efforts to achieve an improvement in group life, the community organization process is at work.

The conquest of tuberculosis, another chronic disease, illustrates what can be accomplished by community organization. Under medical leadership, in hundreds of communities group action has succeeded in developing these basic elements of a tuberculosis program: case-finding, adequate care, rehabilitation and vocational guidance, public and professional education. These objectives are not unlike the essentials of a rheumatic fever program.

The Content of a Community Program

The American Council on Rheumatic Fever¹ has defined five general areas of community function applying to rheumatic fever and heart disease:

Professional Services.—Physicians, nurses, medical social workers, educators, occupational therapists, rehabilitators and others have specific skills and knowledge needed by the individual with rheumatic fever. The training and experience of these professional workers will largely determine the success of the program. The contribution of the physician is essential, but the other professional services are also necessary.

Treatment Services.—The rheumatic fever patient may need care in a general hospital, special hospital, sanatorium, foster home, convalescent home, or special arrangements for care in his own home. The standards and type of services available will determine what severity of illness can be cared for through a given facility. Regardless of how care is provided during the acute illness, or in the long period of restricted activity, a primary consideration should be protection from exposure to epidemic hemolytic streptococcal infection. Failure in this regard may result in repetitive rheumatic fever, frequently with resulting increase in heart disease or early death. Just what type of facility is developed for each community or area may well depend upon existent facilities and how they may be improved or altered to meet the community needs. It is clear that high standards are essential, and will vary with each type of service. It is urged that no facilities be developed or utilized unless they are qualified to supply a defined need of the rheumatic fever patient.

Case-Finding Service.—Finding of new cases or suspected cases is a prime requisite in a public health program. The most productive source for early case-finding for rheumatic fever and heart disease is through the schools. School health service should be prepared to play this important role in the rheumatic fever program. The school health and rheumatic fever committees of the American Academy of Pediatrics have recently issued a statement outlining how school health service can contribute to the rheumatic fever program of a community. Since there is no test for diagnosing rheumatic fever, an excellent diagnostic service is of the greatest value. Such a service not only forms the basis for indicating the needs of the individual, but can do much good in eliminating incorrect diagnoses with relief of the attendant and unnecessary anxiety. A diagnostic service is essential to other case-finding techniques.

Follow-up Services.—Here the community program can make perhaps its greatest contribution to the welfare of the rheumatic individual. In a chronic disease of this type with the threat of recurrence especially in childhood and the danger of cardiac failure later in maturity, provision for a continuous health supervision is extremely important. The school and industry are logical and strategic centers through which follow-up services can be directed. During the period when rheumatic fever is inactive, considerations of major importance to the final outcome can be decided. Some of these considerations include the application of preventive knowledge, improvement in environment, improvement in nutrition, welfare or other aid if necessary, vocational evaluation, guidance, rehabilitation and employment and directions as to physical activity. Multiple cases of rheumatic fever and rheumatic heart disease occur in a family, as often has been found to be true of tuberculosis. Hence, the family as a unit for the prevention of rheumatic fever can well be considered in the development of a program. Control of the spread of hemolytic streptococcal infections in a family with a known rheumatic fever patient would be a beginning in this direction.

Public Information.—No community program is complete or even possible without public education. Not only is an informed public essential for program support and financing, but education is necessary to enable the public to make the best use of the services offered.

In all planning for community functioning with respect to rheumatic fever, the patient should be the constant point of reference. What his needs are will determine the program which community organization must develop. Patients tell us by implication where in the community more planning is needed, and their own life stories give us the argument in favor of this planning.

Procedures for Community Organization

For a long-range program, such as this must be, the initiative should come from within the community. Information and technical assistance may be supplied from outside to inform and interest community leaders, but to insure the acceptance and support of the program by the community, it must be initiated and carried out by members of the community. This program involves the cooperation of many groups and individuals. The physician is the ideal person to call attention to this disease and secure the help of key people in the community.

In localities where a council of health agencies exists or where there is any one major health agency, perhaps a tuberculosis association, such an organization may offer the machinery for initiating a community interest in the rheumatic fever program.

In our efforts to secure organized action, we must avoid creating a host of new community agencies, each with its own small staff and tendency to a narrow point of view. To avoid increasing the number of community organizations to a point where the public may be confused by the appeals, and the administrative cost may be out of proportion to the benefits provided, existing appropriate voluntary health agencies such as local tuberculosis associations, should be invited, wherever possible, to provide the organizational machinery for community rheumatic fever programs. There would, of course, be a separate professional committee to develop the program, recruitment of volunteers interested in the disease to assist with fund-raising, and the provision of some extra staff. But the general administration and the organization of the separate fund drives would be under the one local agency.

Certainly in directing lay and professional attention to this problem, no community agency has a greater opportunity or obligation than the local medical society. Where there is no community group in existence which might locally serve as the

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framework for organization, the initiative may be taken by the interested physicians with the assistance of the health officer and lay community leaders. They could organize a planning committee such as is illustrated in Figure 2.

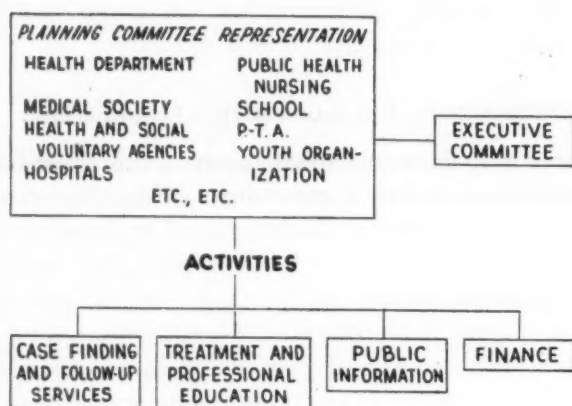


Fig. 2. Suggested committee organization chart.

The health department representative would be the health officer or his delegate; the representatives of the medical society would probably and desirably be pediatricians and heart specialists, as well as general practitioners. There should be representatives from organizations doing family case work, as well as from the department of public welfare. It would be desirable also to have nursing, education, civic, religious, business and labor interests represented on the committee. An executive committee would probably be necessary to act for the over-all planning committee in the interim periods between meetings, composed perhaps of the chairmen of the subcommittees. A general function of this committee would be to study the extent of the local problem and to report back to the agencies represented upon it. A complete committee program might be carried out through four subcommittees as shown on the chart: one on case-finding and follow-up; one on treatment and professional education; one on public information; and a finance committee, the functions of which would be to estimate financial needs and find ways to meet needs without developing a separate fund.

The suggested organization chart and related plans may seem too ambitious for a small community. It may not have enough of a rheumatic fever problem to justify an elaborate community organization. On the other hand, an active informed group, even in a small community, can

interest the proper agencies and individuals in neighboring communities. Such action may result in several communities co-operating to form a larger operating unit. The plan might be developed, therefore, on a county or health district basis.

Although the problems are many and complex, at least a start may be made with one phase of the program. Where to begin will depend upon local circumstances. If a cardiac clinic for children already exists, for example, it may be the starting point. The group interested in this activity can serve as a nucleus to arouse other community groups who can be brought together to serve on a planning committee. Another approach may be through the schools. A carefully conducted survey of school children to determine the incidence of rheumatic heart disease may be the means of arousing interest in a more extensive attack on the disease.

The Physician Holds the Key to Control

If the magnitude of the rheumatic fever problem is to be disclosed and brought home to the various localities throughout the country, if there is to be intelligent action on the basis of what is known about the problem in the community, if there is to be economical use of community resources, and most important, if there is to be sustained public support of the efforts to control this disease, community organization, we believe, needs to be undertaken. In this program of community action, the physician and his medical society must assume leadership.

Yesterday, the physician treating sick people was a lone worker. Recovery of the individual patient often hinged entirely upon the physician's own therapeutic resourcefulness. Today, in the management of such complex diseases as syphilis, tuberculosis, and rheumatic fever, certain new and technical phases of diagnosis and therapy are apt to be peripheral to the routine experience and facilities of the general practitioner. Expert laboratory and consultative aid and co-operative group professional arrangements may be more frequently necessary. Today, also, the physician depends upon many other non-medical individuals and agencies to enable him to bring to his patient the complete galaxy of modern medical resources. And yet, as the focal point for these facilities and

(Continued on Page 1153)

Surgical Management of Peptic Ulcer

By Charles S. Kennedy, M.D.
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THOSE OF US who are old enough to have had the privilege of attending the clinics of the greatest of all American gastric surgeons, William Mayo, will recall that he frequently remarked that the main indications for gastroenterostomy, with usually resulting immediate cure of the patient, were three prior complete medical cures. The contention of the medical group of that day, including Sippy, Smithies, and others, was that surgery was rarely, if ever, necessary and that practically all peptic ulcers, whether on the stomach or duodenal side, were amenable to a proper medical regime.

Time altered Dr. Mayo's opinion, but unfortunately for the patient, both here and abroad, there still exist two such schools, steadfastly adhering to similar convictions: the one that nearly all ulcers are surgical problems, and the other that surgical interference in the management of ulcer is unwise, uncalled for, unnecessary, and worse. Surely, as is so often the case, both extreme viewpoints are wrong and the truth is found someplace in the middle ground.

Most thoughtful surgeons and internists are now agreed that the great majority of peptic ulcers, perhaps 80 to 85 per cent, are medical problems and rightly belong to the medical field, where proper and sustained care will result in a high percentage of cure or in relief of symptoms for long periods of time. There are, however, some complications which should shift ulcers from the tender ministrations of the medical man to the more sadistic attack of the surgeon, and those complications are five in number:

1. Perforation.
2. Obstruction.
3. Massive and repeated hemorrhage.
4. Intractable symptoms under good treatment.
5. Any possibility whatever of malignancy.

Perforation

Until two or three years ago, it was generally conceded by all concerned that perforated peptic

ulcer was first, last, and all of the time a surgical condition. Recently, some doubting Thomases have appeared in the land, questioning the desirability of surgical interference and advocating the management of these abdominal catastrophies by the introduction of a Levin tube, half-hourly suction, chemotherapy and intravenous supportive fluids. Mr. Hermon Taylor stimulated this viewpoint by reporting, in the September, 1946, *Lancet*, twenty-eight consecutive cases treated in this manner, with four deaths, three of which he generously conceded had nothing to do with the perforation. Cohn and Mathewson, in *California Medicine*, November, 1948, review 265 perforations with an over-all mortality of 12 per cent and operative mortality of 6.4 per cent. In their opinion, non-operative treatment is justified if the peritonitis appears to be localizing, the patient is improving clinically and air cannot be demonstrated by x-ray. Who is wise enough to know which case falls in this group? The late Roscoe Graham, Canada's most distinguished abdominal surgeon, a year or so ago reported 125 cases of perforation operated on, with a mortality of 6 per cent, and five cases treated medically, all of whom succumbed.

Cohn and Mathewson close their article with the observation that "patients with perforated ulcer can survive without operation." It doubtless might well be added that many more can and will prematurely join their ancestors if this practice becomes generally accepted. It would seem from long experience that the only instances where prolonged medical treatment of perforated ulcer can be justified are those patients with advanced peritonitis and those whom competent surgical help cannot reach.

Obstruction

Obstruction is of two types, inflammatory and fibrous. Of these two, inflammatory obstruction is much more common. It usually results from an occult or deeply penetrating ulcer, extending into the neighboring tissue, developing an edematous mass which sometimes may reach the size of one's fist and encroaches on the lumen of the bowel. Many of these cases will respond to medical treatment but some will not, and those cases after fair medical trial become surgical. The fibrotic obstructions occur in patients with ulcer histories of many years standing, most of whom are well beyond middle age. They have a low acid content high grade retention, and are really the only group

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in which gastroenterostomy may now be regarded as the operation of choice.

Massive and Repeated Hemorrhage

The third group, including those with massive or repeated gastric hemorrhage, is somewhat controversial. Many still believe that these cases are all medical problems, and it must be admitted that the operative approach, particularly in those with massive hemorrhage, results not infrequently in disappointment for the surgeon and many times in tragedy for the patient. Crohn states that it has long been believed that hemorrhage encourages the healing of an ulcer by granulation tissue filling in the base and eliminating the crater. He also emphasizes the point that many times at operation for severe bleeding, the bleeding point cannot be located even by the most experienced surgeon. To emphasize this point, he describes 102 patients with massive hemorrhage in his own practice (one of whom had as many as fifty-eight separate severe episodes) all of whom were operated on, and in twenty-two of whom no explanation for the bleeding was found.

Each year at our hospital, there are several deaths from massive gastric hemorrhage. Dr. Bruce Douglas has furnished statistics to show that last year in Detroit there were ninety deaths from gastric hemorrhage, thirty-two of which were due to ulcer, the remainder resulting from cirrhosis of the liver, carcinoma of the stomach, and other varying causes. Not infrequently, the first evidence of carcinoma or ulcer of the upper gastrointestinal tract is a devastating hemorrhage, seriously threatening life or resulting fatally. Medical management of such catastrophes is usually successful, but there is a good number of such cases in which surgical interference is justified or demanded. Allen and Benedict first advised the surgical approach in 1933, and some surgeons feel that operation is now resorted to much too infrequently and is often far too long delayed.

In general, it may be said that the advisability of operation should be carefully weighed in all patients over forty-five years of age who have their first attack of severe upper gastrointestinal bleeding. The major reasons for this approach are two: first, carcinoma should always be suspected and, second, arteriosclerosis of the vessel which is the source of the hemorrhage may prevent coagulation and cessation of leakage ordinarily seen in younger patients.

Most patients under forty-five years of age may be handled medically with every expectation that the hemorrhage will be brought under control, but it is generally felt that if a patient has a second or third massive bleeding, operation is indicated in any case. We have seen a number of patients with repeated hemorrhage from duodenal ulcer under twenty years of age, one of whom went on to fatal termination at fifteen years of age, with no symptom of ulcer whatever until twelve hours before his death when he vomited a huge amount of bright red blood. A second boy in this group, now twenty-six years old, began at sixteen years of age to have severe hematemesis once or twice a year. Following resection a year ago, he has had no further trouble.

It is strongly believed, then, that patients in whom carcinoma may be suspected, patients over forty-five years of age with the first hemorrhage, and those with recurrent gastric bleeding at any age should be seriously considered as surgical subjects. Obviously, at any age, those patients who continue to bleed excessively under medical management belong to the surgical group.

All of these patients are given repeated transfusions for shock or anemia, but one may delay too long with transfusions. No better rule appears at hand than to institute surgical intervention in those cases in which, in spite of repeated large transfusions, shock recurs with accompanying hematemesis or large bloody stools. In my own experience, if a blood count taken three times a day cannot be maintained above three million cells with the aid of repeated transfusions, operative interference is demanded. It should be evident that such a patient is losing his transfusion as fast as it is being given. Such patients should be taken to the operating room, be given 2,000 or 3,000 c.c. of blood during operation and have large resections of the stomach done. Many times the bleeding vessel can be identified and controlled before the resection is started. The pancreaticoduodenal artery is the usual offender in chronic duodenal ulcer, and it can be readily reached and clamped by transection of the duodenum just below the pyloric ring. After the hemorrhage is stopped, resection can be carried out in a leisurely manner, and it is not unusual to find that with continued transfusion during operation, a patient with very rapid pulse and blood pressure below 90 leaves the operating table with a full pulse of 110 or thereabouts and a normal blood pressure.

Not uncommonly under careful scrutiny, no ulcer and no actual bleeding point can be identified. Hemorrhage in this type of case may be due to a tiny single erosion, multiple bleeding points from gastritis or an occult ulcer near the ampulla of Vater. We recently lost a patient on the operating table who bled to death from an erosion just proximal to the ampulla which we could not find at operation and which the pathologist located with great difficulty at autopsy. This patient's entire small bowel was filled with bright red blood which had seeped from the erosion just as fast as it had been introduced into the man's veins for the preceding twenty-four hours. It should be added that this patient had had several prior severe hemorrhages, in the last of which he had been seen by us and had refused operation. Dr. Owen Wangensteen flatly states that resection of 75 per cent of the stomach in these cases will cure such patients, and a steadily increasing number of surgeons and internists join in that belief. For some months past, Dr. Charles Johnston and his group at Wayne University have been carrying out some clinical studies in gastric hemorrhage by the actual application of topical thrombin through a tube to the bleeding site. The early reports indicate that not only does this method control most cases which are actively bleeding, but it has great possible value by accurately determining continuing bleeding, which has always been such a problem. The preliminary reports of the Johnston group are encouraging, and the results of future studies will be awaited with great interest.

Intractable Symptoms Under Good Treatment

It would appear to be unnecessary to debate the question of the desirability of operation for the patient who does not respond to good medical treatment or for the one who has repeated recurrent symptoms over a long period of time after several trials of a medical regime in capable hands. The percentage of patients who do not respond to dietary or psychotherapeutic measures varies in wide estimation from 10 to 30 per cent in this country. Krarup in the Meulengracht's Clinic in Copenhagen states that their proportion of medical failures approaches 40 per cent. Surely no one should argue that an intelligent patient who has given medical treatment a fair trial and still has partially incapacitating complaints should be denied surgical relief—but certain clinicians do. It is a bit difficult to follow the reasoning.

Any Possibility of Malignancy

The last group of cases includes those of possible malignancy. Dr. Henry Ransom, of Ann Arbor, reviewed twenty-five years of experience with gastric ulcer in a paper given before the American Surgical Society in March, 1947. In a very comprehensive review of 188 gastric ulcers which had been resected, his most striking observation was that 10 per cent were found to have carcinoma at the base, although malignancy was not suspected either from the history, the preoperative clinical findings or by the operating surgeon. In discussing the paper, Roscoe Graham stated that they had had a similar experience in Toronto, with the exception that in their own series of 150 resections, 17 per cent on section disclosed unsuspected carcinoma.

In the light of those figures, bulwarked by similar reports from all over the land, it does seem that medical men everywhere should reappraise the current practice so far as gastric ulcer is concerned. It has long been believed, as Dr. Lahey points out, that medical treatment may well be first tried on gastric ulcers less than 2.5 centimeters in diameter, and if symptoms abate, blood disappears from the stools, and the ulcer diminishes in size or disappears, treatment may be continued with occasional x-ray check-ups. The fallacy of this reasoning is self-evident. No surgeon with the gastric ulcer in his hand is able to determine many times, whether it is inflammatory or early malignant. General opinion to the contrary, some of the smallest gastric ulcers have malignant changes, with or without early metastases, and some of the largest ulcers remain inflammatory for exceedingly long periods. The surgery of carcinoma of the stomach presents a pretty dreary picture if one considers it from the long-range view. If it is true that early operation is the only treatment for malignancy of the stomach, and if it is true—and it is—that from 10 to 20 per cent of gastric ulcers are malignant at operation without malignancy being suspected, then it should follow, without much room for debate, that all gastric ulcers should be resected as soon as diagnosed. If this practice were generally followed, no time would be lost in the medical treatment of early malignant lesions, and a large group of potential carcinomas would be eliminated before malignancy developed. Surely no one can controvert this reasoning. It is strongly urged, therefore, that all gastric ulcers are surgical and should be operated on at the earliest opportunity.

Twenty-five or thirty years ago when the mortality from gastric operation was 30, 40, or 50 per cent, no one could justly urge the surgical approach. Surgery must offer a reasonable chance of survival, a minimum amount of side-chain effects following operation, and a reasonable chance of clinical cure. The mortality of resection has now been reduced to less than 3 per cent in the hands of experienced abdominal surgeons. In our own experience, there have been four deaths in the last 160 gastric resections.

Three surgical procedures are now largely used—two of which have stood the test of time, and the third of which is still in the study phase. Gastroenterostomy still has a place in the surgery of duodenal ulcer but has fallen from the most common operation to perhaps a one-in-ten procedure. Gastroenterostomy should be reserved almost exclusively for use in the patient beyond middle age with high grade fibrotic obstruction and a low acid value in the stomach analyses. If it is used in this group and well done technically, almost perfect results may be anticipated.

Gastric resection of the Polya or Hoffmeister type with removal of two-thirds to three-quarters of the stomach will result in clinical cures in 80 to 85 per cent of cases, improvement in another 5 or 10 per cent, and little change or complete failure in the remainder. Certain variations in technique may be required: the ulcer should always be removed on the stomach side and should be removed, if not unduly increasing the risk distal to the pylorus. The important point is that sufficient removal of the stomach, approaching 75 per cent, with the acid-bearing cells, results in cures, and that diminishing amounts of stomach excised result in correspondingly diminishing numbers of cures.

In the past four years Dr. Dragstedt has revived interest in vagotomy or partial vagus neurectomy. His reports of vagotomies, alone, done on several hundred patients are exceedingly encouraging when added to similar findings at other clinics. It is, however, interesting to note that the almost uniform success indicated by Dr. Dragstedt's and other reports are not confirmed by certain independent observers.

Dr. Walters of the Mayo Clinic staff has reported a number of unsuccessful vagotomy results, including marginal ulcers, persistent postoperative complaints from distention and other symptoms. Other investigators have reported painless per-

foration of marginal ulcers, increased gastric acidity with the lapse of time and many complications which make one hesitate to accept vagotomy as the answer to the profession's pleasant dream of a cure-all for every gastric complaint.

Dr. John Hartzell of Detroit pioneered vagotomy in 1929 with an experimental study on eight dogs and reported anacidity in all of them. Van Zandt restudied four of the animals two years later and found that the acid stomach content had returned to normal values in all four. We have done eleven vagotomies, all combined, with the exception of one, with resection or gastroenterostomy. The results have been good but, so far as we can determine, no better than resection alone. Some surgeons believe that the chief advantage of vagotomy will be found in the patients with hemorrhage, especially those who bleed from marginal ulcers following resection. The whole subject needs much further study, and the answers will not be available in less than five or ten years. Gavisser puts it well when he says, "This operation is being given a fair clinical trial by several competent investigators. In the meantime, it is important that one maintain an open mind and neither hastily condemn nor hastily praise the procedure."

Summary

1. Great progress has been made during the past quarter century in the surgical treatment of ulcer.
2. Internists and surgeons should be able to agree on certain principles which shift ulcers from the medical group to those in which operation is indicated, if not imperative.
3. It is urged that all gastric ulcers and many uncontrollable bleeding duodenal ulcers should have early surgical intervention.

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At Philadelphia Naval Hospital during seven years, 1941-1947, 2,001 autopsies of males eighteen to eighty years of age, revealed 486 malignant tumors or 23.4 per cent of all autopsies.

Public Health and the Private Physician

By Albert E. Heustis, M.D., M.P.H.

Commissioner, Michigan Department of Health

IN THIS PAPER I would like to give my answer to the question, "How can the health department help the private physician and how can the private physician help the public's health?"

Probably, first of all, it would be well to define the fields of interest of public health in Michigan. As I see it, there are three different areas of concern to health departments: The first is prevention. The second is the finding of disease and physical defects. The third is the development of the greatest possible degree of health.

Let us consider the answers to the first half of our question by taking up these three spheres of interest individually and seeing just how health departments help private doctors in each one.

The first area of interest is prevention—prevention of disease itself, prevention of the seriousness of disease when it does occur, prevention of the spread of disease to others, and prevention of unnecessary death.

In this prevention work, health departments help physicians by having biological products available and by education. The education is designed to condition people so that in response to certain conditions they will react in a certain way. Just what is the reaction sought? To get people to go to the office of the family doctor.

In regard to the second field of interest, the finding of disease and physical defects, what things are health departments interested in here? The answer is all communicable diseases, including tuberculosis, syphilis and gonorrhea, hearing defects, vision losses, crippled children, heart disease, diabetes, cancer, and nutritional defects and pregnancy. What do we do with all these things once they have been found or suspected? We try to get the people into the office of the private physician for further investigation and for any indicated treatment.

I would like to give one specific example where health departments may be helpful with patients with diagnosed or suspected cancer. Follow-up by

health departments can be used to cut down on the very costly interval which sometimes elapses between the time that the private doctor advises his patient to do something and the time when the patient gets around to following the doctor's advice. Health departments can be used in getting that patient to follow the doctor's advice. Health departments can get that patient back to the doctor promptly and help to keep him there until he has received the maximum benefit possible.

Now we come to how health departments can help in the third field of interest, that is, in the development of the greatest possible degree of health. This can start in two places, with the person already in apparent health or with the person in sickness.

If we start with the apparent health category, health departments are interested in the various types of periodical examinations and routine surveys. Who is going to do all of these examinations? Who is going to take care of most of the venereal disease found, the cancer, the diabetes and the heart diseases? The answer is the private physician.

If we start with a person in sickness, health departments are interested in good medical care by private doctors. Health departments can help achieve this by working on programs for medical society meetings, encourage attendance at postgraduate courses, and they can encourage general practitioners not to specialize but to improve their skills by developing a field of special interest within the framework of general practice.

Health departments can help secure good medical care by promoting good hospital records. Health departments are interested in the availability of good laboratory service, and in the availability of adequate hospital facilities and equipment. They are interested, too, in the follow-up and the rehabilitation of those who have been sick.

If we take all three of these interests of health departments together—prevention, finding of disease, and development of optimum health—what are they worth to the family doctor: first, in dollars; second, in good friendly relations and personal satisfaction that comes from doing real service for individuals; and third, in doing his part for community health?

How much is it worth? This depends on what the doctor does when the patient comes in to see

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him. People are usually willing to pay for services if they are sold on the value of such services, that is, if they think they are getting their money's worth.

Let us now turn to the consideration of the second half of our question, "How can the private doctor help the community's health?"

First, each physician can individually carry out the good medical theories which he was taught. He can give good prenatal and postnatal care, continuous supervision of babies and examinations of entering school children, and give periodic examinations of adults. He can use the laboratory to confirm his diagnosis and control treatment. In the last case I am thinking of possible delays in the diagnosis of diphtheria, because the newer drugs are used to treat the symptoms without first taking a throat culture.

A second way that the private doctor can help the community's health is by keeping immunizations up to date.

A child's immunization program should be started by the age of six months, and his initial protection should be completed by the age of one year. It is also necessary that immunizations be kept in force with appropriate boosters. As I see it, there is a real need for the doctor, or whoever in his office does the immunizations, to do an individual educational job as well as to insert the needle.

There is need for a community plan for immunization, and this should be a written plan. In this plan, too, some provision must be made for the protection of those who are either unable or unwilling to pay for it, as immunization is done to protect the community as well as the individual.

Thirdly, private physicians must realize that so-called "mass procedures" or "clinics" really help private practice. They uncover work for private physicians that otherwise might have been missed, and they create a demand for the same type of service in the private doctor's office.

I have a specific example of this. When Dr. Pearl Kendrick first had her whooping cough vaccine ready for use, through agreement with the Kent County Medical Society and the health department, it was offered both in the clinics and in private physicians' offices. The first year approximately 90 per cent of the immunizations were done in the clinic, and 10 per cent were immunized by private physicians. Last year those figures were

reversed; 90 per cent were immunized in the doctors' offices and 10 per cent in the clinic.

A fourth way that the private doctor can help the community's health is to do his part to maintain liaison with the county health officer. This works both ways. The health officer should keep other doctors informed as to what diseases are prevalent, what diseases are expected, and whenever anything unusual occurs. The health officer should also provide doctors with accurate statistics.

If the health officer is to do these things, the private physician can help by reporting major contagion and suspected major contagion. It is poor public relations and poor community health not to isolate and report suspected communicable diseases. It is also poor public relations not to know the rules and regulations for communicable diseases.

The private physician can help, too, by properly filling in birth and death certificates. In venereal disease control he can help, in addition to reporting cases, by either assuming the responsibility for contact investigation or specifically delegating that responsibility.

Another way that private physicians can help the community's health is by understanding that county health department services are paid for in taxes by everyone and that its services are available to all in the community. It is just not good public relations to deprive your patients of services for which they have already paid, and here I am thinking of nurses not being allowed to visit the patients of certain private physicians.

Much is to be gained by the private physician understanding the work of the public health nurse and what she is trying to do. It should be completely understood by everyone that the public health nurse should work within the framework of standing orders agreed upon by the individual doctors.

Before I close I would like to say just a word about the services of the public health nurse and just a few things about the health officer as a person and as a doctor.

First, I would like to give specific instances of how the public health nurse can be of service to the private doctor. She refers patients to him for medical care and curative treatments, for periodic care and protective treatments, and for follow-up examinations.

The public health nurse can assist the private physician by providing nursing care in the home. We believe that it represents a wise use of health department funds if, wherever possible, the nurse attempts to teach someone in the home how to carry out the various procedures.

Specifically, she can teach how to prepare and give a hypodermic injection such as insulin. She can teach the young mother how to bathe her baby. The public health nurse can help with the home care of premature infants: first, by seeing that home conditions are suitable before the baby's discharge from the hospital; second, by giving nursing care if needed; and third, by teaching the mother how to care for the baby, so as to prevent exposure to infection.

The public health nurse can show the mother how to give her child an inhalation.

She can teach the patient's family how to take care of dressings such as those used with cancer and colostomy patients.

The public health nurse can assist with the care of rheumatic fever patients in the home by teaching bedside care, by interpreting what is meant by rest and by helping the mothers to plan graduated activities under the private doctor's orders.

The public health nurse can also help private physicians by providing health teaching for his patients. She can teach the need for routine examinations, can translate diet suggestions into menus, and she can interpret to the private physician home situations which may influence the physical and mental health of his patient.

I would like, too, to say a few words about the health officer as a physician.

First of all, public health is a medical profession. The Michigan health officer is a medically trained doctor trying to become as proficient in his field of public health as other doctors are in their fields. The public health officer has no intention of actually practicing medicine; he is interested in the private practice of medicine only insofar as his efforts can improve or advance the medical care of the public in general.

It is illogical to believe that one member of the medical society is different from another just because he is in public health. Both of us are interested in medicine: one primarily in individual health and the other primarily in community health.

The health officer should be invited to participate in medical society and hospital staff meetings just as any other medical doctor. He should also participate in the planning and carrying out of all programs in the public interest. And like any other medical doctor, he should be given things to do for his society through its committees.

Remember that the full-time medical county and city health officer, because it is a part of his job to meet and know community groups, can do a great deal to explain and interpret the problems of health care in general and the problems of the private doctors in particular.

The point of the whole discussion is just this: private physicians and health officers are together the litter bearers of community health. If the private physician does not carry his share of the load, the whole business spills over, and without the help of the private doctors not even the best health officer can make the thing work.

If community health is to be served, not only are both needed, but both must work actively together to get the job done. And if the job is done well, there will be plenty of credit for all concerned.

MSMS

GROUP A STREPTOCOCCAL INFECTIONS AND RHEUMATIC FEVER

(Continued from Page 1127)

shown by us and others that the antibody response of the host is checked by early removal of the antigenic stimulus.

The fact that respiratory infections caused by other microorganisms or viruses do not act as precursors to rheumatic fever strongly suggests that we direct our attention to group A streptococci in attempting to understand this disease, rheumatic fever.

Our lack of understanding of the basic mechanisms by which group A streptococci initiate rheumatic fever should not permit us to overlook the established facts put forward in this report and thereby prevent us from applying the information we now possess in dealing with such potentially malignant diseases as scarlet fever, streptococcal tonsillitis and pharyngitis, from which rheumatic fever develops.

New Trends in the Treatment of Allergic Diseases

By George L. Waldbott, M.D.

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THERE IS increasing evidence that an allergic reaction represents a defense mechanism for the purpose of warding off and rendering innocuous antigens to which sensitivity exists. It can be likened to an inflammatory process which localizes and neutralizes harmful bacteria. In hay fever and allergic sinus disease this process takes place in the nose; in allergic skin lesions, in the skin; in asthma, mainly in the bronchi. The secretion of mucus tends to dilute and eliminate the antigen; the cough reflex assists in its elimination, the attraction of eosinophiles and other leukocytes is to help in rendering the antigen innocuous; emphysema present in asthma tends to close up the interalveolar stomata and thus prevent further absorption of antigens into the blood stream. In incipient asthma in infants this defense mechanism is lacking.² Instead of developing these features, manifestations of anaphylactic shock and death, formerly called "thymic death,"³ ensue. Here we observe petechial hemorrhages and allergic edema in the lungs, followed by secondary pneumonitis, lymphocytosis and hyperplasia of lymphoid glands.

The defense reaction of an asthmatic attack is associated with certain morbid changes which are induced by histamine. Treatment must be directed towards control of symptoms from these changes and simultaneously toward interfering as little as possible with the various protective functions of the system.

In asthma, four different situations present themselves, each of which calls for different therapeutic action: (1) the emergency, (2) the chronic asthmatic state, (3) the state of rehabilitation, (4) the complications.

The Emergency

The emergency is characterized by bronchospasm combined with edema on skin and mucous membranes.⁷ In adults, one of the most common sources of allergic shock is ingestion of aspirin; other sources are ingestion of such food as fish, nuts and cottonseed; inhalation of animal hair,

dusts of organic and non-organic chemicals; and therapeutic injections of biologicals, if the patient exhibits excessive sensitivity to the product. Allergic shock is also encountered during skin testing and in treatment with antigenic extracts. Here the most serious aspect is the accidental puncture of veins and intravenous injection of a potent antigen.

Effective relief and, indeed, the patient's life depend on the promptness with which large doses of adrenaline are given combined with intravenous aminophylline and antihistaminics.

[In order to prevent emergencies from intradermal testing, the following rules were set down elsewhere:⁴ (1) In young children and infants who are most susceptible to severe reactions, no intradermal skin tests should be performed. (2) No tests should be given for antigens for which a history of a severe reaction from inhalation or ingestion has been obtained. (3) In proceeding with intradermal testing, an attempt should be made to gauge the patient's skin reactivity by testing for those antigens first from which generalized reactions are uncommon, such as certain fungi and certain foods. If these initial tests indicate marked sensitivity, testing material for more potent extracts should be adequately diluted. (4) Superficial veins should be avoided in testing.]

The Chronic Asthmatic State

In treating the chronic asthmatic state, the following considerations should be borne in mind: (1) Chronic perennial asthma or allergic nasal disease is usually initiated at, or shortly after, the termination of the pollen seasons.¹ The attacks are likely to become aggravated at subsequent pollen and fungus peaks. (It is the constant, uninterrupted absorption of an antigen such as pollen, house dust or fungi, rather than the occasional one, that accounts for chronicity in asthma.) (2) Food is a minor factor in chronic allergic diseases other than gastro-intestinal allergy. In only five out of fifty-six cases did complete disregard of food sensitivity aggravate chronic asthma.⁸ (3) Cessation of symptoms following administration of a certain measure does not indicate that this measure is responsible for the so-called "cure." With the disappearance of certain pollen or fungi from the air and with the spontaneous termination of intercurrent respiratory infections, the allergic balance tends to become re-established. (4) Prolonged use of any drug is liable to aggravate asthma; its discontinuance may lead to the patient's improvement. (5) By our efforts to reduce the patient's untoward symptoms, we may interfere with the natural tendency to recovery.

Read at the third annual Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 23, 1949.

Improvement of Immunological Balance

Improvement of immunological balance is possible through (1) preventing contact with damaging antigens, (2) hyposensitization, i.e., building up protective antibodies, (3) control of infection.

1. *Prevention of Contact.*—No details are required on avoiding harmful antigens, as this is thoroughly covered in most textbooks. Less emphasis is placed on discontinuance of otherwise harmless medications which are taken habitually. The worst offender in this respect is habitual use of epinephrine by spray or by hypodermic injection. Once a patient is given a hypodermic syringe or an atomizer, it is difficult to break him of the habit of reaching for it at the slightest apparent need. (If one recalls the appearance of those habitually using epinephrine, their striking pallor, tremor and constant tachycardia, one cannot help but feel that the withdrawal of this drug constitutes a major therapeutic step.)

No opiates of any kind should be employed in asthma. They diminish the cough reflex and thus further the tendency toward asphyxiation. Another drug often habitually used by asthmatics is aspirin. It frequently relieves asthmatic attacks and is therefore favored by patients as well as by the makers of patent remedies. When asthmatic seizures are extremely severe, the possibility that the patient had taken this drug should always be borne in mind.

2. *Short Interval Hyposensitization.*—The most striking, and yet most neglected, means of relief for chronic asthma is rapid hyposensitization⁶ with the seasonal pollen or with other inhalants to which the patient gives strongly positive skin reactions. It is based on the common observation that a patient with hay fever will obtain instant relief during the hay-fever season following several injections of pollen extract, provided the dose is large enough to produce a local wheal of moderate size and not too large to cause an aggravation. In selecting the pollen and fungi, I am guided in summer by the results of air surveys of pollen and fungi. In winter, house dust, fungi and greatly diluted bacterial antigens are employed in conjunction with antibiotic therapy.

3. *Control of Infection.*—This is now considered a major step in the treatment of chronic asthma regardless of whether the disease originated from an intercurrent upper respiratory infection or

whether infection is superimposed upon primary allergic sensitivity. Sulfa drugs and, preferably, penicillin and streptomycin, should be chosen according to the clinical manifestations. Intradermal skin tests for penicillin must be given before each new course of treatment as serious accidents may occur from sensitivity to penicillin acquired from previous injections. Indications for antibiotic treatment are leukocytosis, purulent sputum, increased sedimentation rate, the presence of low grade temperature. (Sinus operations must occasionally supplement this therapy if extensive polypoid degeneration of the mucosa and other secondary structural changes are present which do not improve with antibiotic therapy.)

Elimination of Antigen from Lungs

Expectorant drugs, particularly iodides, ammonium chloride and ipecac, aid in this process. Relief of bronchospasm is another means to release mucus for expectoration. The two drugs of choice are aminophylline and epinephrine. Rarely is there any need to employ doses larger than 1/10 to 2/10 c.c. of epinephrine. They are as effective as larger ones and much less harmful. Small doses of the aqueous solution are far preferable to epinephrine in oil or gelatin. The slow rate of absorption renders its therapeutic action uncertain, interferes with antigenic treatment and prolongs the unpleasant side effects of epinephrine. In employing aminophylline intravenously, doses of 3.0 to 5.0 c.c. of the 10.0 c.c. ampoule (3¾ gr.), injected slowly, are sufficient to control attacks of average severity. Aminophylline is the most effective and least unpleasant drug in asthma treatment. It can be given in doses of 7½ grains as an enema, in suppositories, intramuscularly, or orally (enteric coated!) in 1½ or three grain doses. Other bronchodilators, such as ephedrine and the new products Isuprel and Amphaphrene, are useful but much less desirable additions because of their unpleasant side effects. The latter two drugs are best administered by aerosol inhalation (1:200). Time-honored asthma powders, containing stramonium and iodide, or asthma cigarettes are of definite value in certain cases. Occasionally an injection of caffeine sodium benzoate (0.5 gm.) secures considerable relief of bronchospasm.

Death in asthma is usually due to obstruction of bronchi by thick, glue-like mucus. It acts as a check valve similar to a foreign body in the bronchi. Its removal by bronchoscopic lavage,

therefore, should be considered as obligatory a procedure as the removal of a foreign body from the bronchi or a tracheotomy in diphtheria. Even if the patient presents a poor surgical risk, this operation should be performed. In eight cases⁵ this measure has been life-saving. In 152 additional therapeutic bronchoscopies, cessation of attacks was secured in fifty. The success of this treatment depends entirely on whether or not the characteristic mucus is present. It is of little avail if the clinical picture is dominated by bronchospasm, namely, in asthma of psychosomatic origin and in incipient allergic asthma, where urticaria-like edema and little mucus is found. Precautions should be observed⁵ for the prevention of accidents which arise principally from sensitization to, or intolerance of, local and general anesthetics and other medications employed during bronchoscopy.

Symptomatic Treatment

We are now able to counteract the harmful effect of the antigen-antibody reaction by drugs which neutralize the effect of histamine. These drugs relieve bronchospasm, aid in drying up bronchial and nasal secretion. They relieve the nightly cough which is so annoying to patients and control minor attacks. In combination with other drugs, especially aminophylline (Hydrillin—Searle), they are probably more effective than either drug alone. Given intravenously (20 to 50 mg.) they relieve attacks of moderate severity. The routine and persistent administration of these drugs is as harmful as that of other drugs.

Other symptomatic therapy is concerned with securing rest, relieving cough, establishing proper nutrition, counteracting dehydration and controlling anoxia. Barbiturates, or enemas of ether in olive oil, in equal parts, may be indicated for sedation. Mixtures of oxygen and carbon dioxide or of helium and oxygen, hailed by some as a panacea for asthma, are not always effective. This may increase the patient's discomfort and anxiety, particularly when, as is often the case, no noticeable anoxemia is present.

For sudden loss of weight from dehydration large doses of fluids, glucose and amino acids are indicated. In the giving of more than 500 transfusions of blood plasma or whole blood to asthmatics, startling effects have been observed on several occasions. There are indications that through blood of certain individuals, protecting ("blocking") antibodies can be transmitted. In selecting

blood for transfusion, caution should be exercised since harmful reagins may also be transferred. We employ a preliminary skin test (1/10 c.c. intradermally) with several prospective blood specimens and choose the one which produces the smallest wheal or flare. (Allaying the patient's fears and worries, as well as improving his surroundings, plays a significant part in supportive therapy.)

The State of Rehabilitation

After subsidence of asthmatic attacks, an important phase of treatment begins which necessitates a reversal of many measures carried out during attacks.

Nutrition.—Our first concern is the improvement of the patient's nutritional state. Immediately following an asthmatic attack, foods which had been harmful before can usually be eaten with impunity. An attempt should be made to disregard former food sensitivity and to employ high caloric diets. Only those foods are eliminated which are definitely recognized as harmful. Only rarely is it necessary to eliminate food for a long time. It is much more difficult to combat the patient's fears of eating a certain food than to overcome his sensitivity to food.

Inhalants.—An effort should be made to adjust the patient to normal surroundings in order that he will learn to overcome sudden exposure to inhalant antigens. There is ample evidence that an antigen absorbed repeatedly at short intervals is much less damaging than if it is avoided strictly for a longer time and then happens to be accidentally inhaled, ingested or injected. Furthermore, by trying to impose too many restrictions on the patient, we succeed in isolating him psychologically from his surroundings and provoke most serious inferiority complexes. While general cleanliness in a house should be stressed, precautions for disposal of upholstered furniture, rugs and curtains which may have been harmful before should not be carried to an extreme if it has been ascertained that these antigens do not induce attacks.

Effort.—An important phase in rehabilitating the patient is the improvement of his threshold of tolerance to effort. As soon as possible he is to initiate light exercise several times a day, such as walking, climbing stairs, bending, squatting, at first with moderation and indeed with caution. This program is intensified if he remains free from

attacks. Even such activities as playing golf, bicycle riding, climbing, hiking and swimming—things which are otherwise harmful to the patient—should be encouraged at this stage. If not tolerated, they should be discontinued for a few days or weeks. Here, too, the boost of the patient's morale, by insisting on having him perform normal activities which had heretofore been forbidden, universally outweighs any temporary ill effect.

Cold Sensitivity.—Allergic patients may develop severe attacks when exposed suddenly to cold or heat. Duke suggested gradually building up a tolerance to temperature changes by sponging arms and legs with cold water and later by rubbing ice on the body surface. Some patients thus acquire the habit of taking a cold bath daily and are thus conditioned to brave the winter months.

Climate.—To recommend a change of climate to a patient is frequently a convenient means by which a doctor rids himself of a patient with whom his treatment has failed. Great caution should be employed in making this recommendation. The patient often considers the act of breaking up his home and moving to a different climate his last resort. If this experiment fails, despondency and despair ensues. A thorough investigation of the fungus and pollen situation of the prospective territory should precede any such recommendation and should be carefully checked with the patient's sensitivity. Moving the patient to the house next door may have the same effect as sending him far away. It is particularly harmful to have patients return from a pollen-free area at the height of the pollen season. This often elicits the first attack of asthma.

Psychosomatic Element.—It is not difficult to appreciate why the psychosomatic element plays such an important part in asthma. Some of the chief reasons are the patient's fear of attacks, his concern about becoming asphyxiated, his habitual use of harmful medications, his insecurity in his earning ability, his inadequacy in his role as husband and father. Through the many "don'ts" which have been imposed upon him throughout his life by doctors, relatives and friends, he has become psychologically isolated from his surroundings. Worried relatives, especially mothers, in the case of children, contribute further to his insecurity. In no other disease is the physician apt to contribute toward aggravating this situation as much

as in asthma. Conversely, a physician may completely alleviate asthma of long standing through encouragement, proper counsel concerning the various aspects of the disease, and through teaching the patient and his family an intelligent approach to the above problems. It is rarely necessary to refer him to a psychiatrist for lengthy—and costly—treatments.

The Complications

Complications of asthma arising from obstruction of bronchi by mucus are atelectasis of a portion of the lungs or of whole lobes, bronchostenosis and pneumonitis. Accumulation of mucus in the terminal bronchi and its subsequent infection may lead to bronchiectasis. Permanent bronchiectasis as a complication of allergic asthma is much less common than it appears from the literature. (On the other hand, a certain degree of temporary bronchiectasis probably exists in most chronic asthma and subsides upon the termination of the attack. Bronchograms indicative of such lesions when taken during an asthmatic attack were negative when repeated after its subsidence.)

Persistent and severe cough may induce such rare conditions as subcutaneous emphysema, mediastinal emphysema, spontaneous pneumothorax, cystic degeneration of the lungs and spontaneous rib fractures.

Anoxemia may account for convulsions during attacks, especially in children. The equivalent of this condition in adults may be the sudden syncope occurring during severe coughing spells. The patient falls on the floor, remains unconscious from one-half to one minute, his face being markedly cyanotic. Spontaneous recovery occurs promptly with the disappearance of cyanosis.

Only a few points can be raised concerning the treatment of other allergic diseases. It is now generally recognized that in urticaria allergic management is effective only in the true allergic type. In a survey of 158 cases of chronic urticaria, drugs and inhalants were found to be very significant causes. The differentiation between the allergic and nonallergic type of urticaria can be based on such clinical features as leukocytosis, absence of conclusive skin reactions, lack of eosinophilia, lack of allergic family and personal history.

Allergic eczema, in my opinion, constitutes a combination of three factors, namely, the allergic

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Anesthesia---The Weakest Link in the Surgical Procedure

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THE IMPORTANCE of anesthesia in the surgical treatment of patients has been a subject of foremost interest to me during the last fourteen years. During this time much progress has been made in the field of anesthesiology. Ever-increasing numbers of our profession have become cognizant of the value of good anesthesia. Still larger numbers have lent an ear at least to the things we have to offer, even though they are unwilling to give more than lip service in aiding in this progress.

Personal experience has convinced me that anesthesia is of utmost importance in many types of surgical procedures. However, even more important than this is to have safe anesthesia, even though it is perhaps not the most pleasant for the patient and the surgeon, particularly for elective operations. It seems to be particularly unfortunate when an anesthetic death occurs in a patient who is in fairly good condition undergoing an elective operation. The loss of such patients should be reduced to an absolute minimum. I have knowledge and data of deaths in many such patients, and in a recent report by Ruth et al¹ of the Anesthesia Study Commission for the City of Philadelphia, one-half of the anesthesia deaths in 300 patients were decided to have been preventable. They state, "A higher incidence of preventable deaths occurred in patients in good preoperative physical condition and in age groups usually considered optimum risks for anesthesia." Therefore, one cannot say that there are only a small percentage of the patients that require skilled anesthesia administered by an anesthesiologist. It is true that in a certain percentage of the cases the immediate importance is much greater; however, the loss of these patients in good condition to have relatively safe operations performed seems very sad affair. It is true that as we attempt to anesthetize patients in poor physical condition, when an operation is their only hope of recovery, we will encounter difficulties just as will the surgeon who attempts to save patients by extensive

operations; but this is a responsibility that we must accept. In some communities there are surgeons trained and qualified to do surgical procedures that are not frequently done because of inadequate anesthesia.

Anesthesia requires the use of the most potent depressant drugs used in the practice of medicine and the administration of these drugs to the most extreme degree. During the administration of general anesthesia one has seconds or minutes to make a diagnosis and determine the changes or treatment indicated. This is quite a marked contrast to the time available in ascertaining the effects and further need of most drugs used in the practice of medicine.

Anesthesiologists are the first ones to admit that operations within the thoracic cage were retarded for many years because of lack of proper anesthesia. Advances that have been made in this type of anesthesia, along with many others, have been made by medical anesthetists, even though many of the procedures may be carried out by others at the present time. There is an ever-increasing tendency to do more extensive operations for conditions previously considered hopelessly inoperable. If anesthesia is well enough developed in the future, surgery will make progress in many communities. If we do not continue this progress and increase the number of anesthesiologists available, anesthesia will continue to retard the development of surgery.

One reads of the discovery of various new drugs in anesthesia, but these are of little importance compared to some of the other types of progress. The most important progress made in anesthesiology during the last two decades is the improvement in teaching methods and the means of disseminating knowledge among the medical profession, particularly those who are administering anesthesia. These improved methods of teaching that follow along the lines of other specialties in medicine have encouraged many young medical graduates to enter the specialty of anesthesiology. They have seldom been encouraged to enter this specialty because of financial advantages. Today, it is an important fact that the advances in anesthesia are the improvements in the administration of drugs and not in the type of drug itself. It is a well-accepted axiom in this specialty that the skill and care with which the drug is administered is more important than the choice of the drug. The literature abounds with indications and contra-

¹Read at the third annual Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 24, 1949.

indications, with theoretical instructions for choosing drugs and techniques for various types of surgical procedures. However, this does not make for good anesthesia unless these methods are properly carried out during the administration.

In spite of the improved teaching methods and the relatively large number of teaching centers, there is a lack of interest on the part of the medical graduates to enter this specialty. One of the reasons for this lack of interest in anesthesiology no doubt arises from the lack of respect towards this specialty. There is need to interest not those who have failed in other fields but the best that the medical profession has to offer, and such individuals will be interested more often when respect for the specialty has developed. One factor of prime importance is that anesthesiologists must have professional standing in their community that is parallel with other specialties.

Who has administered anesthesia during the past 100 years? This period is best divided into three parts for general discussion. These are from 1846 to 1900, from 1900 to 1925 and from 1925 to the present. During the first period nearly all anesthesia was produced by the inhalation method, using ether, chloroform or nitrous oxide. The most active group during the first few years of this time were dentists, and they made contributions to anesthesia. With more widespread use of anesthesia, young physicians were required to administer it all too often without supervision or instruction. It was part of their duties before they could ascend to the important task of assisting the surgeon. Very few of them ever became interested or proficient at this task. There are accounts in the literature of how poorly anesthesia was administered. As time passed, more emphasis was put on the importance of anesthesia. By the turn of the century a few physicians were administering and teaching anesthesia. One hears tales that the administration of anesthesia during this period and even the next was frequently relegated to the orderlies or any other available layman because it was not considered a worthwhile task for a doctor. One at times suspects that we are still confronted with the necessity of "living down" this attitude. It stems from ignorance; it is a human trait that the things that one does not know much about in his own field are sublimated to unimportance.

During the first quarter of this century much progress was made in anesthesia. One great step

was the introduction of local and spinal anesthesia with procaine. This gave methods that the surgeon could use himself with one important feature—he could improve his technique. Surgeons did nearly all the development of local and spinal anesthesia during this period. While these methods were not without hazard there was improvement in the methods and addition to medical knowledge. Another and perhaps the most important trend during this period was specialization in anesthesia by physicians. The physicians taught one another, and there was a beginning of good publications on anesthesia. By the end of this period there were many full-time anesthetists and still more physicians doing anesthesia on a part-time basis.

Another feature of this period was the introduction of the system of teaching nurses to administer anesthesia. This practice was not adopted in any other sizable country, partly because most of the countries considered giving anesthesia as the practice of medicine, and it could be done only by a licensed physician or dentist. In England, for example, midwives are trained and used, but the authorities considered anesthesia sufficiently important that nurses were not allowed to administer it. Whatever the merits of the system of using nurse anesthetists may have been in the past or are at the present, it is not a system that would have made for progress without physicians in the field. Regardless of past service rendered and future service to be rendered by nurses, they should not be allowed to stand in the way of progress. We must look further ahead than how we can get by today. We must consider what should be done to make progress in this field, particularly in our teaching institutions.

The last twenty-five years have exhibited the greatest progress in anesthesia, and the most important contributing factor in this progress is the introduction and use of improved teaching methods, and the improved dissemination of knowledge, most of which was known at the beginning of the period but by very few individuals. This teaching started in a few centers and gradually spread, until now there are many. This has been both the cause and result of increasing numbers of capable young physicians entering this specialty. This aspect of progress is far more important than the introduction of new drugs and methods, even though the latter have been outstanding in this period.

At the present time there are over 2,000 mem-

bers in one national anesthesia society alone, most of whom do anesthesia only part or the major part of their time. And there are many other physicians who have become proficient in administering anesthesia. It is a fair estimate that physicians administer one-half of the number of anesthetics and more than half of the important cases. There are many anesthesiologists who work as consultants on a fee-for-service basis. These men are generally called for the most difficult type of anesthesia and frequently are of service to their colleagues in many other ways. Therefore it is probable that more than half of the difficult cases are done by physicians. The other half of the administrations are done by nurses with varying degrees of training and ability. Some of this personnel are supervised by qualified anesthesiologists and some are not. To satisfy the legal aspect, most states have ruled that the surgeon may take the responsibility for the anesthesia and direct the nurse in what drugs to give.

There are many teaching institutions training anesthesiologists, and these physicians will spend the rest of their lives working in this specialty. Steps are also being taken to provide short or continuation courses in anesthesia for practicing physicians who do anesthesia on a part-time basis in many communities.

As already indicated, physicians in a community who want improvement can do much to help. If they have sufficient surgical work and will co-operate, they can secure a full-time anesthesiologist if he is given proper working conditions, namely, the same as they have. They must not expect him to work for a salary while they work for fees. They must help convince the hospital that the anesthesiologist is a physician and will work as such and not as a technician. We have found that many surgeons want professional anesthesia but do not want to be inconvenienced in any way to get it; others will arrange schedules to help, sell the idea to their private patients and treat their anesthesiologist as a colleague. The latter are the ones that find it possible to have the services of a professional anesthetist, enabling them to concentrate on the operation without worry about the anesthesia.

Hospital administrators and boards of directors can do much to help improve anesthesia for their patients. Some of them have already gone on record as opposed to professional anesthesia, unless the incumbent works on a salary for them. Fortunately, however, there have been and still

are many broadminded and far-seeing hospital administrators. These administrators, some physicians and some not, have done much to make progress in anesthesia. They have made teaching centers possible and even provided for research. We appreciate their co-operation and can say to them that they have done far more than they or anyone else realizes to advance the science and practice of anesthesia. To those who either have not encountered the problem or are contemplating how they can offer professional anesthesia in their hospitals, it can be said that they can get such service without much added cost in most communities unless they are already exploiting their patients by excessive anesthesia fees. But, unless their staff, particularly the surgeons, are interested, it is a difficult task and a very thankless one for the anesthesiologist. The most sought-for arrangement is a staff appointment with privileges to work on a fee-for-service basis the same as the surgeons do. If service is rendered to the hospital, such as supervising others, the hospital may expect to pay for this if the patient cannot. One recognizes that running a hospital without too much loss is not an easy task, but it appears that if progress continues as during the past twenty years, hospitals will not regret having made arrangements to permit and encourage anesthesiologists to help with their anesthesia problems in co-operation with the rest of the staff.

Considerable variation exists throughout the country in the personnel who administer anesthesia. It is true that there are different standards of practice in many aspects of medicine, but there is probably no branch of medicine in which there is such a range of difference in the standards prevailing as in anesthesia. Those administering anesthesia are nearly all included in this list:

1. Fully qualified anesthesiologists.
2. Physicians in training institutions supervised by anesthesiologists.
3. Physicians with limited training in anesthesia.
4. Surgeons giving spinal or local anesthesia with someone else watching the patient during the operation.
5. Surgeons giving spinal or local anesthesia without having anyone watch the patient during operation.
6. Interns and medical students under proper supervision.
7. Interns and medical students improperly or not supervised.
8. Nurses trained to administer certain types of anesthesia.
9. Nurses with little or no training.
10. Lay persons with little or no training.

There are all sorts of combinations of these existing in various hospitals. Such a mixture of personnel is good evidence that all too often the anesthesia must be the weakest link in surgical procedures.

The number of capable young physicians who are choosing anesthesiology as a specialty has increased a great deal. This is in part due to their special interest in this field, which is most apt to be aroused by examples of desirable practice in this specialty. As soon as all communities and our own profession learn to treat the medical anesthetist as a colleague and physician, we will be able to interest more capable young physicians in this specialty. The established teaching institutions for anesthesiology have continued for the last twenty years to make improvements in teaching anesthesia. All too often, members of the profession seem to feel that the poor anesthesia that exists throughout the country is the fault of teaching institutions. Training anesthesiologists requires time; and their placement after training will depend upon co-operation of local physicians and hospitals. The profession must learn that these anesthesiologists are well-trained physicians who can be of assistance to them in the care of patients. Anesthesia is a true consultation practice because the anesthesiologist has no patients of his own. The services we have to offer will allow the surgeons greater freedom to concentrate on the operation and save them enough worries so that they should not begrudge their anesthesiologist a living income. Many co-operative surgeons are willing to reduce their fees when necessary to have the service of an anesthesiologist. The internist should be interested in the safety and welfare of patients he refers for operation. He can use his influence to improve conditions. The general practitioner may be administering some anesthesia. Most of them are grateful to be relieved of this responsibility, and others for the opportunity to learn more about the specialty so that they may become qualified to continue with this work.

All physicians could use their influence to help persuade hospital administrators of the value of professional anesthesia. Some hospitals will not allow surgeons to bring in medical anesthetists or permit them on the hospital staff. This brings us to the problem of hospital boards and administrators. I appreciate that the business of managing a hospital with a minimum deficit is a complicated and oftentimes difficult task. However, I contend that the

primary purpose of a hospital should be to care for sick people and that no system which retards progress or prevents patients from receiving safe anesthesia is justifiable, even though it is a good source of revenue to the hospital. Also it is not fair to surgical patients because they are paying more than their share toward supporting the hospital. Hospital costs should be put where they belong—more on the room instead of on special services. Fortunately, many hospital administrators have for years been far-sighted and helpful in regard to anesthesia. To these, the medical profession owes much because they have made possible training centers and working places for those properly trained. One can predict that with increased interest in anesthesia by the American Medical Association, the profession and the public, hospitals that have made satisfactory arrangements for the services of anesthesiologists will not regret any apparent loss of income.

Hospital staffs are very careful about who is permitted to perform operations, but they do nothing to improve anesthesia over what it was some years ago. It is unfortunate to have capable surgeons handicapped, to have many operative procedures not carried out because of inadequate anesthesia, and to have many new anesthetic drugs and methods that cannot be safely used. This is many times the responsibility of the hospital staff; they must convince the administrators of these needs and take steps at least to have anesthesia properly supervised. Generally, anesthesiologists prefer to work on a fee-for-service basis the same as other physicians. There are a number of irritating factors involved in a physician being an employe of a hospital, particularly when others of the surgical team are not. These undesirable features are not absent in a hospital where all physicians are paid by salary, but one at least has company. Many hospitals, on the other hand, want to retain anesthesia as a hospital service.

The public is the least of our problems. An interested surgeon can sell his patients professional anesthesia very easily with a few sincere words. Patients do not object to paying a fee to the anesthesiologist when they understand the arrangement in advance and when the service has been properly rendered. This makes for a surgeon-patient-anesthesiologist relationship that is beneficial and necessary to all three for the best results.

At the present time, anesthesiologists are going

(Continued on Page 1155)

X-Ray Diagnosis in Pediatrics

By William A. Evans, M.D.

Detroit, Michigan

FOR A SUBJECT as comprehensive as the one which has been assigned, it has seemed of possible interest to examine in what manner radiological studies are of particular value in pediatric practice. For this purpose we have collected a series of cases conforming to the following criteria: (1) the x-ray examination resulted in a major contribution to the diagnosis, (2) the condition demonstrated was more or less characteristic of infancy or childhood, and (3) a specific effective method of treatment was available for the condition demonstrated. Rigid adherence to these criteria does not result in the selection of a large group of cases, as we have reviewed the material passing through the x-ray department of the Children's Hospital of Michigan in recent years.

The common respiratory infections and pneumonias have similar manifestations in children and adults except for the much more frequent occurrence of obstructive phenomena in infants. Indeed, obstructions of various types are a major factor in the mortality of respiratory infections in infants and young children. Atelectasis, emphysema and obstructing masses in the air passages may be well demonstrated in the x-ray examination, but obstructive symptoms are usually a prominent feature of the clinical picture in these cases. The location and extent of the pneumonic infiltration have not in our experience been of critical importance. The diagnosis of pulmonary tuberculosis in infancy and childhood usually requires a correlation of clinical, radiological and bacteriological evidence. Occasionally the diagnosis of an unsuspected miliary tuberculosis is made roentgenologically, but the results of treatment in this and other forms of tuberculosis in childhood have not been strikingly effective thus far.

The diagnosis of cardiovascular malformations and diseases is likewise best made by a combination of all available methods of investigation. X-ray studies, while often making a valuable

contribution, can seldom claim a major role in the final diagnosis.

Hypertrophic pyloric stenosis and intussusception, two of the most common and characteristic gastrointestinal lesions of infancy, can be accurately demonstrated by radiological methods, but in the majority of cases the history and clinical findings obtained by a pediatric surgeon are so characteristic that confirmation is not required. It is fair to state, however, that mistakes in clinical diagnosis are made on occasion and that perhaps more frequent radiological confirmation is desirable. At the present time in this hospital the x-ray is employed more often to exclude than to confirm the diagnosis of these conditions in doubtful cases.

In general, lesions of the genitourinary tract in infants and children do not meet the requirements for discussion here, but mention should be made of one recent patient with a severe hypertension and encephalopathy where intravenous pyelography demonstrated one small non-functioning kidney. This kidney was removed with prompt regression of the hypertension and encephalopathic symptoms.

Tumors, blood dyscrasias, and endocrine disorders are seldom discovered unexpectedly in x-ray examinations, although on occasion subperiosteal infiltrations and infiltrations of the metaphyseal areas of the long bones may point to an unsuspected diagnosis of leukemia or neoplastic metastasis in infants examined for pains in the joints. Rarely the osseous lesions of neurofibromatosis will be demonstrated before other clinical manifestations are evident.

Injuries and particularly fractures and dislocations have not been considered sufficiently different in children and adults, either in diagnosis or management, to come within the scope of this essay. Epiphyseal lines are often confusing in diagnosis to the inexperienced, and injuries at the epiphyseal line may result in growth disturbances peculiar to childhood, but these problems are not for discussion here. It is true that unexpected fractures are occasionally discovered in infants because the history and complaint are necessarily more uncertain in an inarticulate patient. A traumatic basis for a lesion in a very young patient must often be considered whether or not there is a history of injury.

Malformations and diseases of bones and joints can usually be accurately suspected by an experi-

From Children's Hospital of Michigan.
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enced orthopedist, but proper x-ray studies will add precision to the diagnosis and offer a valuable guide to progress and treatment.

Rickets and scurvy produce precise and characteristic changes in the radiographic appearance of bones, but these diseases with rare exceptions should not occur in a well-regulated modern pediatric practice and will not be discussed here.

Also beyond the scope of this essay are such conditions as dysostosis multiplex, chondrodystrophy, melorrrheostosis, osteogenesis imperfecta, the various forms of rachischisis, arthrogyrosis, hydrocephalus, and agenesis of the corpus callosum which have purely descriptive and perhaps arbitrary labels. Roentgenographic studies may add to the descriptive details, but at present the precise nature and etiology of these conditions are poorly if at all understood, and little or nothing can be offered for prevention or treatment.

It is not the practice at the Children's Hospital to make any routine x-ray examinations. Examinations are made on the basis of some feature in the history or some manifestation of abnormality. The x-ray is necessarily more widely used in the study of sick children than in adults because the history of an illness is often uncertain and misleading, because the complaints are frequently poorly defined in inarticulate patients, and because the physical examination is difficult. In this situation if a conscientious student were to list all the possibilities of diagnosis in a given case, the x-ray examination would hardly produce any surprises. Nevertheless, in the cases which I shall present, the x-ray examination did establish an unexpected diagnosis and one which could not readily have been made by other means. I do not mean to use these cases to boast of the value of the x-ray examinations but to point out some conditions which will not be suspected if they are not given more frequent consideration.

In the first group of cases are foreign bodies.

Case 1.—M.K. (K-5555), a four-year-old girl, had a foul-smelling discharge from the nose for six to eight months. A nose and throat consultant made a diagnosis of pansinusitis and advised adenoidectomy, but an x-ray examination of the sinuses was requested and an open safety pin was demonstrated in the left nares. A chronic unilateral foul nasal discharge should raise the suspicion of a foreign body.

Case 2.—G.B. (26057), a two-and-one-half-year-old boy, had a cold with nasal discharge and cough for three days. An attending physician prescribed a sulfa preparation which afforded no relief. Some bizarre

physical findings in the chest prompted an x-ray examination, and a complete atelectasis of the left lung was demonstrated. Then persistent questioning elicited the fact that the cough began when the boy was eating peanuts. Bronchoscopy revealed fragments of a peanut in the left main bronchus.

Case 3.—D.W. (27096), a nine-month-old girl, exhibited dyspnea and cough for seven days, and a physician diagnosed asthma. It was observed that she ate well, but an obstruction in the upper air passages was suspected and an x-ray examination ordered. A foreign body in the upper esophagus was demonstrated.

Case 4.—D.R. (D-3757), a one-and-one-half-year-old boy, was admitted to the hospital with fever, anorexia, and irritability for three days. There was some abdominal distention but no vomiting or obstipation. The clinical impression was nasopharyngitis and a large liver, due possibly to catarrhal jaundice or subphrenic abscess. An x-ray examination of the chest was ordered, and fortunately a sufficient portion of the abdomen was included in the study so that the foreign body could be demonstrated. This proved to be a bobby pin which had lodged in the duodenum, perforated into the liver, and caused a liver abscess. While many foreign bodies pass uneventfully through the gastrointestinal tract, it is well to remember that those which are long will have difficulty passing the relatively fixed loop of duodenum.

Case 5.—G.J. (26707), a five-year-old boy, slipped on a rug and bumped his left knee. The surgeon noted swelling over the tibial tubercle, suspected a "chip fracture" and asked for x-ray confirmation. A needle was demonstrated in the soft tissues.

It is to be noted that in none of these cases was there an original history of a foreign body, and in some no history was ever obtained. The possibility of foreign bodies should ever come quickly to the mind of a physician dealing with young sick children. They may occur in orifices and passages other than those mentioned above—in the ear canal, vagina, urethra, and urinary bladder, for example—and there are, of course, many foreign bodies which, having a density similar to that of the adjacent tissues, do not give direct evidence of their presence in an x-ray examination.

The second group of cases concerns two types of congenital malformations in the newborn which are gratifying to recognize because early diagnosis is important and because effective measures of treatment have recently become available.

Case 6.—A.C. (6573), a male infant, was observed to have a sudden onset of cyanosis and labored respiration at five days of age, at which time an x-ray examination showed a cystic emphysema of the right lung, displacement of the mediastinum to the left and a diminished

air content of the left lung. Further observation showed a progressive expansion of the right lung and a diminishing air content in the left lung. A diagnosis of expansile cystic disease of the right lung was made, and a right pneumonectomy was performed at one month of age. The section of the right lung confirms the diagnosis of cystic disease with numerous large and small cysts in the upper and lower lobes and a collapsed but otherwise normal middle lobe. Following the operation there was re-expansion of the left lung. Unfortunately this infant died on the seventh postoperative day with a tension pneumothorax on the right from a loosened ligature at the stump of the right lung, but there have been several reports in the literature of successful pneumonectomies in infants for expansile air cysts since the paper of Fischer, Tropea and Bailey in 1943.

Case 7.—H. (26065), a female premature negro infant, weighing 4 pounds 4 ounces at birth, suffered weight loss and vomiting. Stools were reported to be scarce but there was no evidence of abdominal distention. The x-ray examination of the abdomen on the seventh day of life showed gas in the small bowel with no gas in the colon, and a diagnosis of complete obstruction in the ileum was made. At operation a membranous area of atresia was found in the upper ileum. This was incised and there was a slow but otherwise uneventful recovery. This is a typical example of a variety of congenital obstructions in the bowel which may be recognized. It is noteworthy that in these cases there are often no clearly defined clinical signs of intestinal obstruction, particularly in premature infants, and that the history of stools is usually misleading. Early and accurate diagnosis is important because in the hands of skillful pediatric surgeons many of these congenital obstructions have been relieved in recent years.

The third group of cases concerns certain infections which may have absent or misleading clinical manifestations, where the x-ray examination offers an unequivocal diagnosis and an indication for specific treatment.

Case 8.—R.H. (20270), a three-month-old negro infant, had been crying and irritable since his sister had pulled his arm, and the arm was observed to be limp. An x-ray examination was ordered under the clinical impression of an Erb's palsy with the possibility of fracture. The examination disclosed a fracture of the humerus, but it was further observed that the fracture had occurred in an area of abnormal bone structure and it was suggested that the other long bones be examined. By this means the characteristic lesions of syphilis were found and a diagnosis of importance was made.

Case 9.—R.H. (3716), a five-week-old male negro infant, was admitted to the hospital with the history of a "cold," fever, vomiting and anorexia beginning three days previously. The clinical impression was that of an upper respiratory infection with constipation and pos-

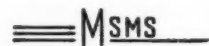
sibly bronchopneumonia. The x-ray examination performed the day after admission was essentially negative. Two days later the respiratory rate rose from 66 to 100 per minute, and a second x-ray examination on the seventh day revealed a massive pyopneumothorax on the right. Thoracentesis yielded 80 c.c. of thick green pus containing staphylococcus aureus, and recovery occurred following further aspirations and the administration of chemotherapy.

We have come to recognize that empyema may be an early manifestation of respiratory infection in infants, that it is most commonly due to the staphylococcus, and that it is frequently associated with a bronchopleural fistula and pneumothorax. The rapid accumulation of pleural exudate causes serious respiratory embarrassment and threatens the life of the infant unless relieved. A further hazard is the occurrence of a tension pneumothorax from the bronchopleural fistula, and this also may be relieved by an accurate appraisal of the situation and preparation for appropriate measures.

Conclusions

Radiology does play a role in pediatric practice, depending upon the familiarity of the radiologist with pediatric problems and the technical facilities and assistance available to him.

The x-ray examination may support or confirm a diagnosis which has been made, or it may make a diagnosis which has not been suspected. Sometimes conditions are revealed which lead to a specific and effective method of treatment.



RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE IN CHILDREN

(Continued from Page 1125)

exudative phase of polyarthritis may be controlled with adequate salicylate therapy, and the various forms of acute carditis may be treated along lines of a well-planned therapeutic regimen. Each phase of rheumatic carditis needs to be treated in a "specific" manner. The acute phase with salicylates, the protracted phase without congestive failure with oxygen, and the phase of failure with appropriate forms of dehydration therapy.

3. The quiescent phase of rheumatic disease offers a problem of rehabilitation rather than a distinctly medical problem.

4. The problem of prevention of rheumatic onsets or recurrences remains, for the most part, unsolved.

Adenocarcinoma of the Fundus Uteri

By Charles S. Stevenson, M.D.
Detroit, Michigan

THE DESIRABLE management of any malignant lesion is its elimination in such a way that recurrence is unlikely and the patient's survival assured. That this, in many instances, is a difficult goal to attain is familiar to most of us. Carcinoma of the fundus, or corpus uteri, however, plays fairly in that it gives ample warning of its presence.

It begins primarily as a localized endometrial growth and, with few exceptions, tends to spread comparatively slowly. This fortunate association of events makes fundal carcinoma much more adaptable to complete eradication than is the case with malignancy in other organs and parts of the body. Unlike a cancer of similar extent in the cervix uteri, in which parametrial and lymphatic extension occurs much more promptly, it grows slowly by direct extension and spreads slowly through the lymphatics.

About 80 per cent of women who develop fundal carcinoma are past their menopause, and in this group the average age is about fifty-nine years; four out of five patients with this type of cancer are over fifty years of age. This group of women tends to show some fairly definite characteristics, in that a preponderance of them are obese or relatively obese. There is also a rather high incidence of hypertension among them, usually with varying degrees of arterial and renal change. This group contains more than just the occasional diabetic, and, strikingly, there is an absence of anemia in the vast majority. Postmenopausal bleeding in these women has been due solely to endometrial carcinoma in a good proportion of cases. Roughly a third of them have never been pregnant, and of these about one-half have never been married. Most of them have had menorrhagia in the premenopausal and menopausal epochs, and their postmenopausal bleeding has occurred anywhere from one to twenty-six years after cessation of menses.

With regard to the 20 per cent of women who are found to have fundal cancer prior to the cessation of menses, the age limit is from about forty

to fifty years, although some women in this group may be under forty. *Menstrual irregularities of any type* may be the only symptom of the disease, and this is unfortunate, as such irregularities are fairly common in the premenopausal and menopausal epochs of a woman's life, and she may accept them as a not unexpected feature of "change of life." Hence, she may give the disturbance little thought unless the bleeding is either too profuse, uncomfortably annoying or merely inconvenient. So medical advice usually is not sought promptly enough. On the other hand, it is not too uncommon for a fear of learning the truth, or a woman's undue sense of modesty, to contribute to this delinquency. Fortunately, both of these factors today are probably playing less of a role in the delay in reporting to her doctor than they did formerly, and this gratifying change is a result of the general campaign for educating the public concerning the commoner forms of cancer and their symptoms and signs.

Granting that a certain proportion of the delay period preceding recognition and treatment of fundal carcinoma stems from the ignorance or indifference of the woman herself, it is only too true that the physician first consulted is often the one responsible. He may believe himself to be too busy to examine his patient properly or may be reluctant to do so "when she is bleeding." Many a writer and lecturer has called attention to the injudicious and indiscriminate use of endocrine therapy employed to "control" bleeding at this time of life, and I cannot condemn this practice too strongly. We know that 10 milligrams of testosterone given daily by mouth may stop uterine bleeding, and that frequently repeated injections of 25 milligrams of stilbestrol will do the same, but any woman in this age group who has *abnormal uterine bleeding*, be it menorrhagia or metrorrhagia, deserves a thorough curettage of the uterine cavity and cervical canal, plus adequate biopsy of the cervix, in order to rule out uterine cancer.

Another hazard is that of diagnostic error. Pelvic examination may disclose the presence of myomata of the uterus, and the abnormal uterine bleeding may be attributed solely to their presence. An inadequate operation, in the form of a supracervical hysterectomy, may then be done, and an accompanying endometrial carcinoma may be found, not by the surgeon but by the pathologist. Or a conspicuous polypus of the cervix may be seen and considered to be the source of the ab-

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From the Department of Obstetrics and Gynecology, Wayne University College of Medicine, Detroit, Michigan.

normal bleeding; it may be removed and the patient sent home, only to bleed abnormally again the next month, while the carcinoma within the uterus remains undiscovered and undisturbed for another month, at least, because of the failure of the doctor to curet the uterine cavity in addition to removing the polyp. Tragedy, in these cases, might well have been averted by the cancer-conscious practitioner who would first have carried out diagnostic curettage to discover or rule out that possible adenocarcinoma of the endometrium lurking behind the screen of the more apparent possible anatomic sources of such abnormal bleeding.

These errors of omission and commission are really too frequent. Constant vigilance must be exercised—first, by the family doctor in evaluating the cancer potential of abnormal premenopausal bleeding, and second, by the surgeon alert to the possibility that fundal cancer may accompany an obviously benign uterine lesion—if correct diagnosis and appropriate treatment are to be attained.

The diagnosis of fundal carcinoma in all cases should be made by the microscopic examination of uterine curettings. It must be remembered that there is considerable variation in the histologic picture presented by fundal carcinoma. The majority of the lesions fall into the low-grade malignancy group—papillary adenoma malignum being histologic grade I, and adenoma malignum grade II. A lesser proportion of cases represents an intermediate grouping—adenocarcinoma grade III. The solid cellular types, or diffuse anaplastic adenocarcinomas, are grade IV; they are the least common and are of a very high grade of malignancy. Adenoacanthoma is the rarest form of endometrial carcinoma and may be found in any of the four grades of malignancy, but is most commonly found in grades I and II. It is characterized by a squamous metaplasia of the otherwise single layer of carcinomatous cells which line the gland-like spaces. The prognostic value of this classification is indicated by the fact that in 800 cases of endometrial cancer graded in this manner, Broders reported good results in 90 per cent of grade I, 62 per cent of grade II, 25 per cent of grade III and 10 per cent of grade IV.

The clinical grouping of fundal cancer is by no means standardized, and various plans are in vogue in different clinics. At present the Health Organization of the United Nations is working on such a grouping of cases for international use. This

grouping probably will be based upon the gross extent of the disease as interpreted by the examiner, upon the comparative size and passive motility of the uterus when examined, and upon the presence or absence of general signs of extension of the growth, such as cachexia, evidences of peritoneal spread and palpable extra-uterine tumor masses.

The treatment of carcinoma of the uterine body has been both surgical and irradiative, and today most clinics in this country are using both in various combination techniques.

From the pioneer abdominal total hysterectomy of Freund in 1878, from the later techniques of Werder and Wertheim, together with the technical refinements of Ries and Clark, we have come a long way to the present-day masterly procedures of Victor Bonney, Daniel Morton, and of Joe V. Meigs. The present surgical technique calls for the abdominal approach and division and ligation of both infundibulo-pelvic ligaments before the uterus is handled. This is done in order to decrease the chances of possible lymphatic spread to the iliac regions. Then the tubes and ovaries, working medially, are separated from the broad ligaments, and the round ligaments are divided at least 1 inch from the fundus. With upward traction on the uterus and its attached adnexae, the broad ligaments are bluntly stripped away from the lateral aspects of the uterus, and the vesical fold of peritoneum is transversely incised, and it and the bladder are pushed down off the lower anterior surface of the uterus and of the cervix. The uterine vessels are ligated and divided from the uterus. The attachments of the cardinal ligaments, with their contained cervical vessels, are next ligated and divided from the cervix, and the cervix is excised from the vagina at a level which allows removal with it of a skirt of vaginal vault at least 1 centimeter in length. Any surgical procedure less radical than this is inadequate.

This dictum is based upon the fact that the dissemination of carcinoma of the fundus is chiefly through the lymphatics that drain the uterine body, although direct extension along the Fallopian tubes is also of importance. In advanced cases the disease may extend well into the cervical canal, so that gross examination of the surgical specimen may make it difficult to ascertain whether the disease has originated in the cervix or in the body. At operation in an advanced case it is essential to examine the lumbar group of glands, situated

near the lower end of the aorta, as well as the upper hypogastric glands near the bifurcation of the iliac vessels, as metastasis tends to take place to these lymph nodes. Metastasis to the ovary occurs in about 5 per cent of cases. Some of the cancer may also be found in the fallopian tubes, and it is of interest to note that metastases to the tubes are often found to be submucous and interstitial, which speaks for the importance of the lymphatic route rather than implantation as a means of spread. In advanced cases there may also be involvement of the peritoneum, omentum, cervix, bladder or rectum. Surgical excision of all of the tumor, as radical as is necessary and as the patient's condition will allow, should be accomplished.

Irradiation therapy is of great help and should always be carried out preoperatively whenever possible. If not, it should be given postoperatively. About eight years ago three different methods for treating endometrial cancer at three separate clinics in this country were put into practice in order to build up separate comparative series of cases. At the Jefferson Medical College Hospital in Philadelphia preoperative intra-uterine radium is used, followed by panhysterectomy in from four to six weeks; intra-uterine radium preoperatively and deep x-ray postoperatively is the method being followed at the Johns Hopkins Hospital in Baltimore; and at the University of Michigan Hospital preoperative deep x-ray is given. While differences of opinion exist with respect to whether radium or x-ray is superior in the part that preliminary irradiation plays and just how these factors should be employed, the facts remain that, when suitably used, preoperative irradiation seems to be responsible for certain accomplishments in the improvement of five-year survival rates.

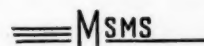
Irradiation tends to promote local devitalization and attenuation, if not complete destruction of the growth. It also accomplishes reduction of infection and, perhaps, some sort of sealing off of the lymphatics, thus lessening the possibility of cancerous dissemination when an operation is subsequently done. Preoperative irradiation is not used with the expectation of eliminating the lesion, but for the reasons just stated. Some residual cancer is observed in about 50 per cent of uteri removed surgically subsequent to irradiation.

There is always a group of patients in whom, due to unalterable complications such as heart disease, excessive obesity, or some other contra-

indications to operation, irradiation alone can be used. The constant improvements being made in methods of irradiation may better our statistics in cases in which this is the only type of treatment permissible. No matter how poor a patient's condition may be at the time of irradiation therapy, she should be followed closely for months or years and should have surgical removal of the uterus and adnexae at the first opportunity provided by an improvement in her general physical condition, or by an improvement in anesthesia or surgical technique.

Treatment with intra-uterine radium alone has given a five-year survival rate of about 50 per cent, while with deep x-ray alone the figure is less. With operation alone from 50 to 60 per cent of women survive for five or more years. With the newer techniques of combined irradiation and operation, from 70 to 80 per cent of patients with fundal cancer are surviving for five years and longer, and our techniques will undoubtedly improve even more and will yield an even higher rate of cure in the coming years.

But more important than this matter of the improvement of treatment techniques is *earlier diagnosis* and the *prompt institution of proper treatment*. We would be amiss if we did not emphasize that the greatest responsibility for the improvement of survival rates in this disease rests upon the physician's shoulders. He must educate his patients regarding the symptoms of cancer, see to it that all women with abnormal *uterine* bleeding, if they are thirty-five to thirty-eight years of age or older, have at least a diagnostic curettage, and, should cancer be found, make certain that proper treatment is carried out without delay.



THE PHYSICIAN AND COMMUNITY ACTION FOR RHEUMATIC FEVER

(Continued from Page 1132)

services, he, today more than ever, holds the place of leader in the control and prevention of disease.

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Systemic Bacitracin in Surgical Infections

By Frank Lamont Meloney, M.D.
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BACITRACIN was discovered in the Bacteriological Research Laboratory of the Department of Surgery of Columbia University in June, 1943. It was demonstrated to be active against a wide variety of disease-producing bacteria and was found to be of low toxicity.

Its commercial production was accomplished first by the Ben Venue Laboratories of Bedford, Ohio, and later by the Commercial Solvents Corporation of Terre Haute, Indiana. During the gradual improvement of commercial production, the antibiotic was used in more than 200 cases of localized surgical infections by the injection of the solution or the application of an ointment containing the antibiotic, and favorable results were recorded in 87 per cent of these cases. Similar gratifying results were obtained in skin and eye infections by the local application of bacitracin ointments or solutions.

In September, 1948, the Food and Drug Administration gave its consent for the general distribution of bacitracin to practitioners of medicine for local injection or application of the solution or ointment or for oral medication.

Up to the present time, over 200 cases of generalized infections have been treated by the intramuscular injection of bacitracin with favorable results in about two-thirds of these cases. More than half of this series have been cases which have failed to respond to penicillin, streptomycin or the sulfonamides, either alone or in combination.

At the same time similarly gratifying results were obtained in dermatological and ophthalmological infections by local application of ointments or solutions. In its relatively crude state, it was effective when applied to local infections, but it had not yet become standardized nor had it been obtained in a sufficiently pure state to warrant its systemic administration.

Pharmacological studies demonstrated that bacitracin was without evidence of toxic action to any organ or tissue of the body of experimental animals, except for local irritative effects on the tubules of the kidneys of mice and to a lesser de-

gree of monkeys. Rabbits, rats and dogs seemed to be unaffected.

The systemic administration of bacitracin by intramuscular and subcutaneous injection was begun cautiously and with gradually increasing confidence, as it was demonstrated that, although traces of albumin and a few granular casts appeared in the urine, they disappeared during the course of treatment or shortly after its cessation. During 1947 and the spring of 1948, a gradually increasing number of cases of generalized infections were treated systemically with the product of the Ben Venue Laboratories, produced by surface growth, in doses ranging from 3,000 to 50,000 units every six hours, with a control of the infection in the great majority of cases.

Blood levels could be obtained and maintained for a period of six hours by the subcutaneous or intramuscular injection of solutions containing 10,000 to 30,000 units per c.c. and in doses ranging from 3,000 to 50,000 units, but administration by mouth in doses as high as 250,000 units seldom showed absorption into the blood stream and only minimal levels in the urine. On the other hand, high concentrations of the antibiotic could be found in the stools following oral administration.

It was found that *Endameba histolytica* was susceptible to bacitracin *in vitro*, and administration by mouth demonstrated its ability to bring the symptoms of amebiasis under control with rapid healing of the lesions.

In January, 1946, the Food and Drug Administration set up certain specifications for potency, stability, solubility, toxicity, and pressor, depressor and pyrogenic effects of bacitracin for all manufacturers to meet.

An extraordinary synergism between bacitracin and penicillin has been demonstrated by Dr. Harry Eagle in the cure of experimental syphilis, and a series of human cases has been treated with bacitracin alone and with bacitracin in conjunction with penicillin. Dr. Edward Reisner has found bacitracin effective in the treatment of pneumococcus pneumonias of various types.

Bacitracin was first made by the deep tank method by the Commercial Solvents Corporation. This became available for the first time in January, 1948, and was used from January to June of 1948. But although they met the specifications of the Food and Drug Administration, certain lots were found to be more toxic than the Ben Venue product, and confidence in the systemic adminis-

Abstract of paper read at the third annual Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 25, 1949.

tration of the drug was temporarily shaken. In fact, the systemic treatment of patients had to be halted until this difficulty could be overcome and uniformly less toxic lots became available. These were first used in July, 1948.

During the summer and fall of 1948 it was demonstrated that the product of the Commercial Solvents Corporation, meeting a toxicity level of an LD-50 of 500 units for a 20-gram mouse, could be given safely in doses which were clinically effective and which produced only transient or inconsequential evidences of kidney toxicity.

Bacitracin has been able to cure experimental staphylococcal meningitis in dogs and can be given subdurally or intrathecally in human beings in concentrations of 1,000 units per c.c. and doses of 10,000 units without signs of irritation or toxicity. Bacitracin powder can be applied to the brain surface and the solution injected into its substance without causing the irritation or convulsions characteristic of other antibiotics or antiseptics.

In September, 1948, the Food and Drug Administration gave its consent for the general distribution of bacitracin to practitioners of medicine for local injection or application of the solution or ointment or for oral medication, but distribution for systemic administration is being held up until its safety has been fully demonstrated.

Bacitracin is being thoroughly studied to demonstrate the nature of the residual toxic elements and studies are being carried out by counter-current, chromatographic, ultracentrifuge, electrophoretic and chemical methods in an effort to separate the toxic factors or to nullify the toxic action.

In the meantime, clinical studies are being continued in New York, Philadelphia, New Orleans, San Antonio and Cincinnati under carefully controlled conditions in order to demonstrate further the indications and limitations of this new antibiotic in the treatment of infections.

Up to February 15, 1949, the records of 205 cases of generalized infections, exclusive of pneumonia and syphilis, had been submitted by the five units which had been set up for the clinical appraisal of systemically administered bacitracin, with favorable results in 64 per cent of these

cases. More than half of this series were cases which had failed to respond to penicillin, streptomycin or the sulfonamides, either alone or in combination. Fifty-six per cent of these cases have been "salvaged" by bacitracin, while the favorable results in cases not previously treated approached 80 per cent.

There is increasing evidence that organisms causing infection in man are demonstrating a steadily increasing resistance to penicillin, streptomycin and the sulfonamides. Many of those which are present in mixed infections are capable of producing penicillinase and thus render treatment by penicillin impotent. Many of these are susceptible to bacitracin which is not inactivated by the penicillinase producers.

This clearly demonstrates the need for an antibiotic with the attributes of bacitracin.

MSMS

ANESTHESIA—THE WEAKEST LINK IN THE SURGICAL PROCEDURE

(Continued from Page 1147)

to communities that offer the best working conditions. Most of them want to administer anesthesia and not just act as a trouble-shooter for several less competent anesthetists; although this is a valuable service under many circumstances, it is not a condition that has led to continued improvement in many communities. Physicians will choose anesthesia in greater numbers only when they see these specialists treated with the same respect as others.

Summary

The majority of the medical profession admit that anesthesia is important, and some admit that it should be administered by a properly trained physician. An attempt has been made to point out the part that the profession must take in bringing about improvement in anesthesia for their patients. The anesthesiologist seeks professional standing equivalent to other physicians in the community, and at the present time such localities are attracting these specialists.

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The Practical Uses of Physical Medicine

By Frank H. Krusen, M.D.
Rochester, Minnesota

AT EXACTLY 8:15 on the morning of August 6, 1945 (Japanese time), an atomic bomb flashed over Hiroshima and thus opened the atomic era (the age of physics).⁸ We physicians who have fostered the development of the practical applications of physics to medicine had frequently deplored the apathy of our colleagues toward the growing importance of our specialty, but this apathy almost disappeared with the opening of the atomic era. Seldom, if ever, has a pioneering group had a more devastatingly convincing demonstration of the tremendous power of the agencies in which they were interested than did the leaders in the physical sciences when the atomic bombs fell on Hiroshima and Nagasaki. But if this were not sufficiently convincing, then one could read the official report on "Atomic Energy for Military Purposes" by Smyth in which it is said: "A weapon has been developed that is potentially destructive beyond the wildest nightmares of the imagination. . . . It is to be remembered that the energy released in uranium fission corresponds to the utilization of only about 0.1 per cent of its mass. Should a scheme be devised for converting to energy even as much as a few per cent of the matter of some common material, civilization would have the means to commit suicide at will."

This statement of a great scientist surely must convince anyone, utterly and completely, of the tremendous power of the physical forces now within our grasp.

Yet also, not only do physical agents have enormous power but they make it possible to explore fields of such vast magnitude that our physical scientists, in pushing out the frontiers of knowledge, are reaching toward the very limits of infinity.

Physicists in their quest for knowledge have built at Mt. Palomar a telescope which will make visible objects that are twice as far away as those seen through the Mt. Wilson telescope; with the latter, stars 500 million light years distant have

been photographed—and light travels 6 trillion miles a year. So, the new telescope should make it possible to see into space for a distance of 6 billion trillion (6,000,000,000,000,000,000) miles, stretching out toward the very limits of the infinitely large. It may even give some inkling as to whether the universe is finite or infinite.

Small wonder that Goodman wrote:

"Man, through the vast new lens at Palomar, May bridge the ultimate void from star to star."

Physicists have also developed for medical research the electron microscope which will magnify objects photographically 100,000 times.¹⁸ This new microscope can render visible objects which are a fraction of an angstrom in size (an angstrom is 1/254 millionth of an inch), thus stretching down toward the very limits of the infinitely small. For example, when we compare the best ordinary optical photomicrograph of *Bacillus coli*, made under the high-power oil-immersion lens, with an electron photomicrograph of *Bacillus coli* magnified approximately 100,000 times, a tiny dot becomes a huge zeppelin-like object in which we can observe an infinite variety of detail never previously seen.

So today, physics has given us the power to see with our own eyes either objects which are almost infinitely small or through distances which are almost infinitely large.

The Palomar telescope and the electron microscope indicate the vast magnitude of the fields explored by physical science, just as the atomic bombs indicate the tremendous power of physical agents.

Today we physicians have physical agents of tremendous power and of vast magnitude which can be, and are being, put to practical uses for the diagnosis and treatment of disease and disability.

These practical uses of modern physical medicine are closely integrated with the amazing development of physical forces in the world as a whole. One cannot discuss the one without considering the other. It was the knowledge of physicists which brought about the cataclysmic changes that opened the "age of physics." The applications of physics to medicine must ride along with the amazing development of physics on a global scale. In fact, through our efforts must come some of the steps toward bending the great forces of physics to man's benefit rather than his annihilation.

Read at the third annual Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 24, 1949.
From the Section on Physical Medicine, Mayo Clinic, Rochester, Minnesota.

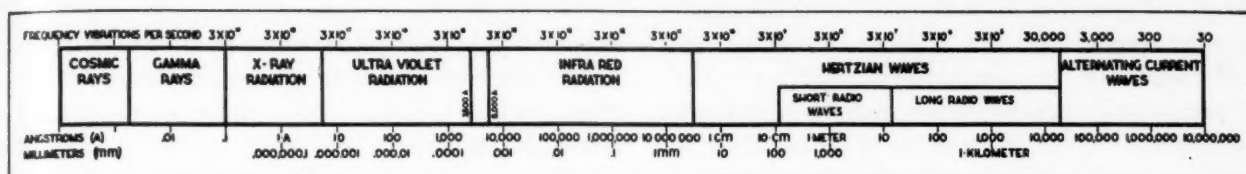


Fig. 1. The electromagnetic spectrum.

My purpose will be to acquaint you with some of the new and practical developments in the rapidly expanding field of physical medicine which may help somewhat to divert various physical forces toward the advancement of human welfare rather than toward the demolition of the world.

Two years ago, Raymond B. Fosdick,⁴ president of the Rockefeller Foundation, said, "Man is confronted with the tragic irony that when he has been most successful in pushing out the boundaries of knowledge, he has most endangered the possibility of human life on this planet. . . . Can education and tolerance and understanding run fast enough to keep us abreast with our mounting capacity to destroy?"

Having faced squarely the fact that these new physical forces possess fearful potential dangers, can we see any ray of hope piercing these dark clouds which are threatening global disaster?

Yes! There are several feeble beams struggling through the gloom. Bernard M. Baruch has said, "Behind the black portent of the new atomic age, lies a hope which, seized upon with faith, can work our salvation. . . . Science, which gave us this dread power, shows that it can be made a giant help to humanity."

And J. H. McGraw, Jr., sounded the keynote when he said, "At one giant stride our scientific and technological development has so far out-distanced our social engineering that we have no choice but to turn our full powers of creative imagination to control the forces we have unleashed and to bend them to man's use rather than to his destruction."

This year, Fosdick⁵ said, "All centuries are dangerous. . . . It is the business of the future to be dangerous. . . . On the whole, the great ages have been the unstable ages. This is the ray of hope that lightens the darkness of the present hour."

Our duty as physicians in this "age of physics" then becomes evident. We must accept the fact that we are living in a dangerous and exciting

age which, because of this very fact, may become the greatest of all ages. We must each strive to do a little bit to turn these physical forces of such vast magnitude and tremendous power to man's benefit.

J. Robert Oppenheimer said recently that we should be "very sensitive to all new possibilities of extending the techniques and patterns of science into other areas of human experience." He added also that we should try to give substance "to the feeling that a society that could develop atomic energy could also develop the means of controlling it."

Our task becomes clearer. No single one of us can do much, but if all of us work toward a common goal of harnessing these physical forces and reining them along roads which will lead to good instead of evil ends, our united efforts may benefit rather than destroy mankind.

One who is unaware of the wide variety of practical uses of physical medicine should consider the electromagnetic spectrum (Fig. 1). He will note one narrow band (the gamma rays) which is the province of the therapeutic radiologist and another narrow band (the roentgen rays) which is the province of the roentgenologist. Then he may be astonished to find the extent of the spectrum which is the province of the specialist in physical medicine, who applies ultraviolet radiation, infra-red radiation, short and long radio waves and also alternating current waves.

In addition to all this, there are included within the field of physical medicine kinesitherapy (the employment of therapeutic exercise and mechanical devices), hydrotherapy, cryotherapy, massage, manipulation, occupational therapy and physical rehabilitation of the disabled.

Physical medicine can really be thought of as applied biophysics.

The medical specialist in physical medicine is now commonly called a "physiatrist." The term "physiatrist" stems from the two Greek words "physis" (pertaining to physical phenomena) and "iatrikos" (pertaining to a healer or physician).

Thus a physiatrist is a physician who employs physical agents.

Occupational therapy can be defined as medical-ly prescribed activity which has a therapeutic objective.



Fig. 2. The medical era of pills, powders and potions.

Rehabilitation can be defined as the preparation of the patient—physically, mentally, socially and vocationally—for the fullest possible life compatible with his abilities and disabilities.

There are many practical applications of physical medicine which can be used by physicians in the great universal struggle to guide the physical sciences away from destructive and toward constructive applications.

Lion recently employed two amusing cartoons to illustrate the influence of physical medicine on the physician.

The first picture (Fig. 2), said Lion, depicts the physician as he practiced before the introduction of physical procedures had influenced his activities. I have called this "a picture of the medical era of pills, powders and potions."

The second picture (Fig. 3) depicts the physician as he will practice in the modern age of physics. I have called this "the medical era of sine waves, slide rules and Sigma Xi keys."

The physician of the future will employ fewer drugs and more physical devices.

That physical medicine is growing rapidly is indicated by the fact that in a recent survey Selle found that 72 per cent of the fifty medical school deans whom he questioned planned "to improve the instruction in medical physics" in their own schools. Several medical centers are developing electromyography (the study of action potentials

in various muscular diseases) and later the physician may be using electromyographic apparatus just as he now employs electrocardiographic devices. Several centers are studying infra-red and ultraviolet radiation, and such studies may lead

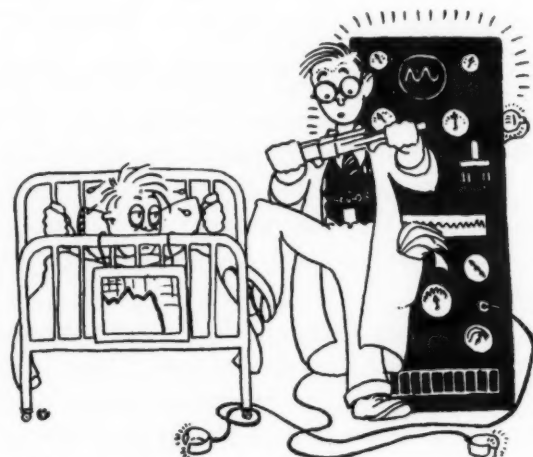


Fig. 3. The medical era of sine waves, slide rules and Sigma Xi keys.

to new and more practical types of infra-red and ultraviolet lamps. Some of the centers are studying physical fitness, and these studies may lead to more practical methods of determining the functional capacity of a patient for a task. Finally, some of the centers are working with problems of rehabilitation of the disabled. The establishment of community rehabilitation centers²¹ to aid in restoring the estimated 23,000,000 handicapped American citizens to useful activity is of great practical importance to modern industry.

The center at Harvard is studying heavy resistance exercise therapy. During the war, military and civilian physicians, stimulated by the work of DeLorme, found that low repetition, high resistance exercises were very useful for restoring the power of weakened muscles. Special devices for providing graded amounts of weights to be lifted by different groups of muscles are being developed.

The center at Medical College of Virginia is studying and perfecting ergographic and ergometric devices. In the quest for more accurate methods of measurement of the results of therapeutic exercise, a logical step has been the development of the ergograph to record work done in muscular exertion and the ergometer to measure the force of muscular contraction.

The Baruch Laboratory at Massachusetts Institute of Technology has been interested in such

practical new physical devices as the electronic stethoscope, consisting of a microphone and a suitable electronic amplifier, to reproduce heart sounds for large audiences. This laboratory is also interested in new physical therapeutic procedures such as electric shock therapy and "the promising field of electronarcosis."

At my own institution my colleagues and I have found that there are many simple minor modifications of commonly used medical equipment which may increase their practical value and effectiveness. In the field of light therapy, until about fifteen years ago, physicians frequently prescribed small heat lamps provided only with a handle. Studies by my associates, Elkins and Sheard, indicate that effective heating from such lamps cannot be obtained in less than twenty to thirty minutes. It is impractical to hold a lamp in one's hand in a fixed position for so long a period. So, in 1936, I⁹ described a single clamp lamp which did not have to be held in the hand. This has come into common use and is now manufactured and distributed rather widely.

Physicians frequently employ infra-red bulbs which produce both a bright light and much penetrating near-infra-red radiation. The glare of these lamps is sometimes annoying, and a few years ago one manufacturer of infra-red lamps produced a bulb of special black glass which, unlike most dark glass, still lets through the near-infra-red rays but cuts out the glare. These were just what we physicians wanted, but it was soon found that the glass absorbed so much heat that the gas in the bulbs expanded and they exploded. They were promptly taken off the market.

It then occurred to me¹⁰ to employ a lamp with a filter disk made of this same special black glass, covering the face of the reflector. An ordinary bright infra-red bulb lies behind the filter disk, and the explosion hazard is eliminated. I have not yet checked fully the transmission characteristics of this filter, but I have used it long enough to believe that it is safe. I think the idea might well be developed.

In the field of heat therapy, I¹¹ described, a few years ago, a practical conductive heating apparatus for applying heat to all surfaces of the shoulder. Because of its irregular contours, the shoulder is very difficult to heat uniformly on all surfaces. This device is merely a specially constructed, thermostatically controlled, heated garment similar to the electrically heated flying suits

employed during the war. It fills a very useful purpose.

In the field of exercise therapy, physicians have long been searching for simpler and more practical methods of measuring the range of motion of joints. For this purpose there has been devised a new type of optical goniometer which can be carried easily in the pocket and can be used for quick measurements of the range of motion of joints. It was developed in the Section on Physical Medicine at the Mayo Clinic by Wilmer and Elkins. In the field of electrotherapy, we have been studying the problem of electrical stimulation of muscles. During and since the war, an extensive study of this procedure has indicated that, after injuries of nerves, electrical stimulation will lessen atrophy or wasting of temporarily paralyzed muscles. My research associate, Wakim, has recently reported to the American Physiological Society on our studies²² of the effects of such stimulation on the circulation in normal and paralyzed extremities.

Of all of our studies in this field, those which have given us the greatest satisfaction have been those which were directed toward the major objective that I mentioned earlier, that is, the conversion of those physical forces which were employed for war to peaceful medical applications which may benefit mankind.

The three great physical weapons of war which we of the medical profession are now striving to convert to medical uses are: *radar*, which is said to have "won the battle of Britain"; *atomic energy*, which hastened the final defeat of Japan; and *sonar*, which aided in our supremacy of the seas.

Radar or microwave diathermy is one of the most interesting and perhaps most promising of the new agents employed in physical medicine. We have been particularly interested in this subject and published the first paper on heating of living tissues with microwaves (radar waves) in May, 1947.¹²

Whereas short wave diathermy currents have a frequency of 10 to 100 million cycles per second, microwave diathermy currents have a frequency of 3 billion cycles per second. An experimental model of a portable microwave diathermy apparatus (Fig. 4) has been developed which weighs less than 40 pounds (about 18 kg.). The radiation is directed along a beam, much like infra-red rays, but penetrates like short wave diathermy and

apparently is absorbed even better. The radiation produces definite increases in the temperature of the skin, subcutaneous tissues and muscle, at least to a depth of 3 cm., and also produces a marked increase in flow of blood.



Fig. 4. Experimental model of portable microwave diathermy apparatus.

I believe that you will hear much more about microwave diathermy in the next few years, and that this great physical weapon of war will be of great practical value in fighting disease and relieving suffering.

The medical applications of *atomic energy* are increasing speedily. Radioisotopes, produced in atomic piles or by the cyclotron, are already being employed extensively in medical research and also in therapy.

Of greatest practical importance in medicine is the use of radioisotopes as tracers to follow the action of certain drugs and chemicals in the living animal. The tagging of atoms through their radiations offers promise of almost limitless advances in the fields of chemistry and physiology.¹³

In addition, radioiodine is being employed to treat some patients who have hyperthyroidism, and radiophosphorus is being used to treat polycythemia vera.

Radioisotopes may be employed as a simple substitute for roentgen rays to provide a safe, practical and inexpensive method of taking ordinary roentgen-ray pictures.¹⁷

It is encouragingly apparent that the powers of atomic energy are being converted quickly to beneficial and enormously promising medical purposes, especially in research.

Sonar or ultrasonics has also interested our re-

search workers, and last year I asked my associate, Dr. J. F. Herrick, of our Institute of Experimental Medicine, to begin some investigations in this field. The term "ultrasonics" refers to vibrations which are above the audible frequencies for the human



Fig. 5. Experimental model of ultrasonic therapy apparatus.

ear. The range of audible frequencies is from 16 cycles to 20,000 cycles per second. A material medium is necessary for propagation of these waves. Sound waves travel at the slow rate of approximately 330 meters per second in air as compared to electromagnetic waves which travel 300 million meters per second.

For some time Dr. Herrick has been experimenting with an ultrasonic device (Fig. 5) which produces high frequency sound waves of 800,000 cycles per second. At present it is purely an experimental device, but later it may be found to have certain practical applications. We do know that when applied to certain tumors in living animals, these sound waves produce changes in the nuclei and cytoplasm of the cells which form these tumors.

The investigation of the possible medical applications of ultrasonics will be a fascinating task.

These are some of the newer practical uses of physical medicine which are contributing to the diversion of the powerful physical forces, which threaten the destruction of civilization, into constructive channels which may lead to a better life for all mankind.

We physicians must assume leadership in the important task of developing practical uses of

(Continued on Page 1168)

Cancer Research

By Harry S. N. Greene, M.D.

New Haven, Connecticut

THE STUDY of cancer—its character and recognition—has led to almost unlimited fields of investigation. Surgical pathologists have attempted for many years to transplant the growth into other sites and animals for the sake of research study. The diagnosis of cancer is difficult, for many tissues have a resemblance, and the only sure diagnosis is made by determining the behavior of the tissue. Cancer tissue has taken on a characteristic of independent growth with power of metastasis.

Malignant tissue has been transplanted for years from the host to other animals of the same species, but all attempts to transplant to other animals—laboratory animals, rabbits, for example—have universally failed. Dr. Greene in his laboratory attempted such transplanting into the anterior chamber of the rabbit's eye, and found growth. He made a series of experiments and found that the three kinds of transfer give strikingly uniform results. He attempted to transfer to the anterior chamber of the eye normal adult tissue, normal embryonic, benign and precancerous, and cancer tissue. These were tried autologously (in the same animal), homologously (one animal to another of the same species), and heterologously (to an animal of a different species). He found that all four types of tissue will grow in autologous transfer, that is, to other sites of the same animal.

When transfer to the eye of homologous animals (same species), he secured growth of all but the benign and precancerous tissue, but when the transfer was made to the eye of heterologous animals (another species), only embryonic and cancerous tissue would grow. This poses many questions of the nature of cancer but offers a ready means of diagnosis. Extensive studies have confirmed the diagnostic value of this method of study. Many cases were shown in which microscopic study would fail to make a differentiation, but the animal transfer into the anterior chamber

of the eye would distinguish which tissue had established its own independence and power to grow, that is, which was malignant or cancerous. The term cancer includes sarcoma.

Grafts in rabbits' eyes or guinea pigs' eyes will take on the more characteristic form of growth; that is, a cancer which is undifferentiated, or has broken down and shows fibrous and dead cells along with the metastatic ones, will assume its more primary character after two weeks of growth in the eye, and often can be differentiated as to form or origin.

Stories and pictures were shown of metastatic growths which could only be proven by eye growth. Embryonic tissue also will grow in the pig's eye, but the diagnosis between embryonic tissue and cancer is not difficult. Embryonic tissue transferred to the anterior chamber will develop as nature intended, and show its character, as a specific organ or tissue, but the cancer will still be cancer.

Many hundreds of pictures were shown at this annual meeting illustrating the growth in the animal's eye. Among the slides of cancer, one in particular was evidently a secondary growth and was non-distinguishable as to origin. After two weeks of growth in the guinea pig's eye, it was very definitely a melanoma. Previous inquiry of the patient had disclosed no previous operation or removal of cancerous growth. But after this finding, the patient remembered having had a black mole removed two or three years previously. Another interesting feature of this research is that normal human tissue will not grow in the guinea pig's anterior chamber, so that when a specimen is transplanted and grows, that is evidence of malignancy. This has been proven in hundreds of cases.

An interesting sideline of this study is a confirmation of the "Ascheim-Zondek Test." The doctor transplanted a small piece of ovary in the anterior chamber of a male rabbit. The ovary, being taken from a rabbit and being from the same species of animals, grew. After six weeks time, when the growth was thoroughly established, the injection of urine from a pregnant woman produced ovulation in the transplanted ovary tissue within eight hours, and this could be watched by looking into the rabbit's eye. Urine from a non-pregnant woman did not react. In eight hours time a positive diagnosis was possible. After the rabbit's eye has had time to complete the ovulation process, the eye is again available for another test.

Sykes Lecture presented at the third annual Michigan Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 23, 1949.

Importance of Preoperative Preparation of the Patient in Surgery of the Colon

By Laurence S. Fallis, M.D.
Detroit, Michigan

THE OPERATIVE mortality rate of colon surgery has undergone a striking reduction during the past twenty years. A comparison of recently published statistics with those of the second decade of this century reveals that the average operative mortality rate has been reduced from a high of 25 per cent or more to a low of 5 per cent or less. Operative mortality statistics collected from representative European and American clinics are listed in Table I. These figures show that improvement occurred as time went on; for example, the Mayo Clinic mortality figure published in 1937 is almost half that of the Johns Hopkins rate published in 1929. Nevertheless, it has been only in recent years that the mortality rate has decreased to the point that operation can be advised and urged with every confidence as to the outcome. Table II is a representative of present-day operative mortality figures, and is truly a remarkable record of achievement. Individual series of cases of carcinoma of the colon exceeding 100 operated upon without a death and large groups with a mortality below 5.0 per cent provide arresting evidence of surgical progress. There are many items to consider in attempting to explain this improvement, and undoubtedly each plays an important role. However, without discounting or minimizing in the least the value of the sulfonamides, the antibiotics, or the liberal use of blood transfusions, the greatest single contributing factor in my opinion has been that of deferring operation until the patient has been put in the best possible condition to withstand surgical intervention. Here, as in many other situations, timing is all important. Formerly patients were admitted to the hospital one day and operated upon the next, but it is now realized that it takes time to prepare patients for operation. Adequate cleansing of the bowel, restoration of blood and fluid levels, together with all-important studies of liver, kidney and cardiac functions, require a minimum period of preoperative preparation of from five to ten days. This may be summed up in another way by

TABLE I. PREVIOUS OPERATIVE MORTALITY

Hospital	Period	Percentage
Johns Hopkins	1889-1919	35.0
Peter Brent Brigham	1913-1931	30.5
Vienna (Finsterer)	-1936	20.4
Mayo Clinic	-1937	18.0
University of Edinburgh	-1934	14.8

TABLE II. PRESENT OPERATIVE MORTALITY

Hospital	Period	Percentage
Crile Clinic (Jones)	-1941 (1000)	7.2
	1941-1943 (137)	0.0
	1940-1947 (169)	0.0
Massachusetts General Hospital (Allen)	-1946 (105)	2.0
Mayo Clinic	1940-1947	5.0

stating that we are now practising the type of surgery that Moynihan so fervently urged when he said thirty years ago that "we have made surgery safe for the patient; let us now make the patient safe for surgery."

The question that comes naturally to the inquiring mind is: what has brought about this welcome improvement in operative results? As Jones of the Crile Clinic has pointed out, there are certain invariables. Patients still come to the surgeon late in the disease; colonic cancer is no less malignant than formerly; the anatomic arrangement of the colon is unaltered; fundamental physiologic and metabolic processes remain unmodified, and surgeons have not suddenly become supermen.

The factors responsible for this pronounced improvement in results are difficult to evaluate. It is easy and therefore tempting to dismiss the subject by attributing the change to the use of sulfonamides and antibiotics, but a consideration of Figure 1 indicates that the mortality rate had begun to decrease before 1939 when the sulfonamides were introduced. At the same time it must be agreed that the precipitous fall to the present level of below 5 per cent occurred coincidentally with the introduction of sulfonamides and antibiotics. The answer to the question must be then that a combination of factors has wrought the transformation. The credit is due almost entirely to those who have devoted so much time to surgical research, for out of the laboratory have come all the innovations that have contributed so much to surgery of the colon. It was not until the experimental surgeons studied the anatomy of the colon that the existence and importance of the marginal artery was emphasized. From the same source has come the exhortation to use fine needles and fine nonabsorbable sutures to make intestinal anastomoses safe and

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From the Department of General Surgery, Henry Ford Hospital, Detroit, Michigan.

SURGERY OF THE COLON—FALLIS

secure. Another important contribution has been that of directing attention to the significance of restoring and maintaining disturbed physiologic and metabolic processes before operation. Specialized research in anesthetic, x-ray chemotherapy, bacteriology, et cetera, has added greatly to our knowledge and helped to solve many of the problems.

General Remarks

The success of any colon operation is dependent on two factors: first, adequate preoperative preparation, and second, detailed knowledge of the blood supply of the colon, rectum and terminal ileum. Peritonitis is the great hazard of colon surgery. There is only slight chance of peritoneal infection following operations on the stomach and small intestine, but the risk increases in direct proportion to the distance from the stomach, hence, there is more danger from an operation on the terminal ileum than on the proximal jejunum, and when the colon is reached, the hazard increases tremendously. This risk of peritonitis, estimated at about 25 per cent prior to the introduction of the sulfonamides and antibiotics, led many surgeons to abandon primary resection and anastomoses in colon resections and to employ graded procedures. Succinyl sulfathiazole administered by mouth for four or five days preoperatively, and penicillin administered in adequate dosage before and after operation, have so reduced the incidence of post-operative peritonitis that one-stage resections of the large bowel are now being carried out in increasing numbers. Even with the operation separated into stages, there is still great danger from peritonitis, if the preoperative preparation has been incomplete. The wall of the colon is thinner than the small intestine, and is more easily traumatized; thus, mere handling of a colon laden with feces may injure the wall sufficiently to allow permeation by highly infective organisms. This damage increases in proportion to the amount of distention, for not only do the walls become thinner, but also the blood supply of the wall is diminished by the pressure of the contained gas. Elective operations, therefore, should never be performed upon the distended or loaded colon. Surgical intervention at this time should consist solely of measures which will produce decompression.

Objectives in Preparation

The purpose of the preparation is to clear the colon of fecal material as far as possible in order to diminish the risk of peritonitis. All patients

should be so prepared that an open operation in the colon could be performed even though a closed operation is planned. If there is no obstruction, most patients can be made ready for operation in five to seven days.

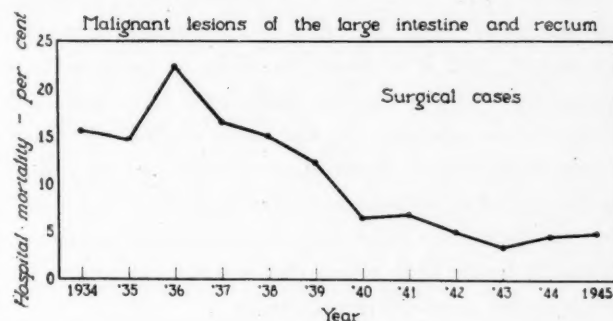


Fig. 1. Mortality among patients subjected to operation for malignant lesions of the large intestine and rectum, 1934-1945. (Reprinted by permission of *Surgery, Gynecology and Obstetrics*. From Pemberton, J. deJ.; Black, B. M., and Maino, C. R.: 82: 523-534, (Oct.) 1947.)

The objectives of preoperative preparation may be listed under five headings.

1. Evaluation
2. Decompression
3. Restoration
4. Measures to combat infection
5. Cleansing of the bowel

Evaluation

A complete physical examination, with special functional studies of the heart, liver, kidneys and state of hydration, supplies information which enables the surgeon to select the most suitable anesthetic agent and to determine the type of operative procedure which would minimize the risk. For example, spinal anesthesia is contraindicated in patients with pronounced arteriosclerosis, and one-stage operations are contraindicated if blood and protein levels do not approximate normal.

Decompression

Obstruction of the colon, even when almost complete, presents remarkably few signs and symptoms to the casual observer. The general condition of the patient usually remains good. Increasing constipation and distention are the outstanding features. Vomiting, a late symptom, stands in marked contrast to small bowel obstruction, where emesis occurs early and persists until the obstruction is relieved. When a patient is admitted to the hospital with partial obstruction of the colon, it is often possible to deflate the distended bowel by

means of the Miller-Abbott tube, rest in bed, application of hot stupes and repeated enemas. One should not overlook the obvious fact that enemas may give a satisfactory result even in complete obstruction, because the enema may remove bowel contents lying distal to the obstruction. If flatus comes away with the enema, obstruction is never complete, and it is likely to yield to conservative measures. Oil retention, milk and molasses and large saline enemas are the most useful. A diagnosis of complete obstruction should not be made until all these enemas have been given a fair trial, for the mortality following non-operative measures is much lower than when the obstruction has to be relieved by surgical intervention.

If, however, this regimen is ineffective, a so-called blind enterostomy must be done to decompress the bowel and get it into condition for subsequent surgery. This operation should be performed, if possible, under local anesthesia. No effort should be made to determine the site of the obstruction because abdominal exploration necessitates manipulation of distended intestine, a procedure that is fraught with grave danger of initiating a fatal peritonitis. The best method of decompression obviously is accomplished by transverse colostomy because by this means the fecal current is completely diverted. It is then possible to first cleanse and then attempt to sterilize the distal bowel and the obstructive lesion. The hepatic flexure or the proximal transverse colon is the ideal site for colostomy in obstruction of the distal colon. This segment can be exteriorized easily through a short transverse incision through the right rectus muscle and held in position by a glass rod. If, however, distention is pronounced, appendicostomy or cecostomy may be the only procedure that is feasible. Theoretically, appendicostomy is the safer procedure, but only rarely is it a feasible procedure.

Cecostomy is performed when the appendix is not readily located or it is difficult to free. The best method is to mobilize the cecum sufficiently to bring up a segment through the incision and hold it in place by means of a crushing clamp. A small Payr clamp is ideal. The peritoneum is then closed about the exteriorized bowel and the skin margin is packed with dry one-inch packing to promote adhesions between the skin and the intestine. The bowel should not be sutured to any structures of the abdominal wall because the cecal wall is very thin and is liable to be penetrated by

the suture needle. The clamp is partially removed in twenty-four hours and the cecum is opened through the crushed area to allow escape of gas and intestinal contents.

On some occasions when relief of obstruction is urgent, a tube cecostomy must be done, but this is a more dangerous procedure because it is almost impossible to accomplish without some soiling, and often there is escape of a great deal of intestinal contents. The advantages of this method are that the obstruction is relieved immediately, the escape of intestinal contents can be controlled and the opening in the bowel always closes spontaneously when the obstructing lesion is removed. Both appendicostomy and cecostomy are inferior to colostomy, for while decompression may be satisfactorily effected, it is never possible to diminish the infectivity of the distal colon since the fecal current is not completely diverted.

Restoration

Building up the patient is accomplished by giving barbiturates to allay apprehension and to produce much-needed sleep and by administering blood proteins. Glucose, saline and vitamins C and K are given to restore and correct deficiencies.

Measures to Combat Infection

The possibility of infection of the peritoneum at operation is lessened by adequate preparation of the colon. Fecal bulk is reduced by a high caloric low residue liquid diet and by the administration of succinyl sulfathiazole, 4 grams four times daily, during the four days preceding operation. Penicillin, 300,000 units three times daily, is commenced the day of operation and continued during the postoperative period until the danger of infection has passed.

Cleansing the Bowel

The fecal bulk having been reduced by diet and sulfonamides, it remains only to clear the colon by means of purgatives and enemas. Castor oil and epsom salts should, of course, be given with caution; and on no account should patients be purged to the point of exhaustion. The secret of successful preparation is repeated flushing enemas given the evening before and the morning of operation. On the day preceding operation, water only is given by mouth, and intestinal activity is reduced by the administration of opium and belladonna.

Outline of Routine Preoperative Preparations of Patients for Colon Surgery at the Henry Ford Hospital

General Measures

1. High caloric, low residue, liquid diet.
2. Force sweetened, strained fruit juices by mouth.
3. Intravenous glucose when necessary to keep daily fluid intake at 3000 c.c.
4. Saline enema twice daily.
5. Phenobarbital, grains $\frac{1}{2}$ three times daily.
6. Succinyl sulfathiazole, administered at the rate of 4 grams four times daily until the day of operation.
7. Blood transfusion when necessary to bring hemoglobin up to 60 per cent and plasma proteins to normal.
8. Dental prophylaxis.
9. Obtain necessary consultations as urological, cardio respiratory, metabolic, et cetera.
10. Arrange for relatives to donate blood; at least two transfusions will be necessary.

Cleansing the Colon

The routine schedule calls for a four-day preparation with operation on the fifth day.

1. *First Day.*—Castor oil, $\frac{1}{2}$ to 1 ounce, depending on the patient's condition, given not later than 4:00 p.m. so as not to interfere with the patient's rest at night.

2. *Second Day.*—In an 8-ounce bottle, put 2 ounces of saturated solution of $MgSO_4$ and 6 ounces of water. Beginning at 8:00 a.m., give 1 ounce of this mixture hourly until the patient has received the eight doses. At 4:00 p.m. repeat the castor oil. Omit or reduce the dose in weak patients, or if there have been too many bowel movements.

3. *Third Day.*—Repeat $MgSO_4$ as on second day unless contraindicated by patient's condition. Discontinue at any time if patient is becoming exhausted.

4. *Fourth Day.*—Complete rest except for saline enemas, only water by mouth. Give tincture of belladonna, 15 drops, and tincture of opium, 10 drops, every four hours for four doses. Introduce Miller-Abbott tube and check position by x-ray.

5. *Morning of Operation.*—Give a saline enema. Pass a duodenal tube through the nose and fasten it in place. When the tumor involves the rectum or rectosigmoid, tie in a urethral catheter. Administer penicillin, 300,000 units, and continue three times daily till danger of infection has passed.

Summary and Conclusions

1. The mortality from surgery of the colon has undergone a remarkable reduction in the past decade.
2. Better preoperative preparation based on experimental evidence has brought about the improvement.
3. An outline of preoperative preparation for colon surgery is given.

Political Socio-Economic Problems

By L. Howard Schriver, M.D.
Cincinnati, Ohio

IN MAKING an exhaustive investigation of the political socio-economic problems currently confronting the medical profession, it is readily concluded that any and all such problems have significant implications to the profession.

The medical profession occupies such an important position in the general political, social, and economic life of the community that this premise seems to me to be incontrovertible. Unfortunately, the medical profession either does not subscribe to this position or is not interested. This voluntary isolation has resulted in reducing the medical profession's influence to an almost irreducible minimum, and I venture the opinion that it has prevented what might have been an intelligent and honorable approach to the solutions of some of the serious problems before the community today.

It is evident that space does not permit a consideration of all these problems; however, it does seem pertinent to mention those which, although having general implications, seem to me to have more or less direct medical interest and to which it is the civic duty of the profession to give very serious consideration.

I am going to list only four issues which I believe to be important. First: medical care of veterans—in relation to who should be entitled to medical care as a client of the Veterans Administration, and the facilities required for furnishing this medical care. Second: medical education—the need for additional educational facilities and changes in the medical curriculum to increase the number of competent physicians. Third: hospital and other facilities necessary for the proper care of the sick. Fourth: distribution of medical care—what method of distribution makes available adequate medical services to all people.

These four issues are, in my opinion, foremost among the important, fundamental, political socio-economic problems confronting the medical profession. The medical profession has the challenge of obligation to take leadership in the solution of these problems. Intelligent leadership may preserve freedom, and I do not confine that to the freedom of the medical profession. Negation and failure will undoubtedly result in serfdom.

Read at the third annual Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 24, 1949.

Care and Treatment of the Psychotic Patient

By O. R. Yoder, M.D.
Ypsilanti, Michigan

EVERY PHYSICIAN, regardless of his special interest, will have patients during the course of his practice who show mental symptoms. These symptoms may be such that the patient, by reason of unsoundness of mind, is incapable of managing himself or others if permitted to be at large.

This paper is a discussion of the problem of the mentally ill. The mental health problem for many years has been first in the State of Michigan. The state hospitals have been sadly overcrowded and understaffed; patients must wait for admission, and it is with regret that more beds must be added at frequent intervals.

The State Legislature in 1877 passed an act creating a "Board of State Commissions for the supervision of charitable, penal, pauper and reformatory institutions." In 1877, after the completion of the Eastern State Hospital at Pontiac, another act was passed prohibiting the placing of any mentally ill person in a county almshouse.

The first institution for psychiatric research and education in America was founded at the University of Michigan in 1901. It was followed by the psychopathic ward opened in 1906 under the direction of Dr. Albert Barrett, who had the official title of Pathologist of State Hospitals. This was later reorganized as the State Psychopathic Hospital, which was to serve as a "state hospital especially equipped and administered for the care, observation and treatment of insanity and for persons who are afflicted with abnormal mental states but not insane."

The problem of state care has grown with the increase in population, until at present 307 persons per 100,000 are in institutions. Ten states of the union hospitalize 442 per 100,000.

The six mental hospitals are overcrowded by more than 20 per cent, or 2,500 beds. The immediate needs of the state are in excess of 3,200 beds, and to this total must be added the factor of annual gain, which is 450 beds per year for the years ahead.

Dr. Yoder is medical superintendent of the Ypsilanti State Hospital.

Read at the third annual Postgraduate Clinical Institute of the Michigan State Medical Society, Detroit, March 24, 1949.

Larger and better state hospitals are not alone the solution of the problem. Some years ago administrators believed that the mentally ill should receive active treatment as well as humane care, and insane asylums then became hospitals. One wonders whether this change of name has achieved its purpose. In order to be a hospital, an institution must have and meet hospital standards.

Every state hospital today has two objectives:

The first is to treat acute mental illness by all the recognized and accepted forms of therapy. This includes the various forms of shock treatment, the highly specialized forms of neurosurgery and various forms of psychotherapy. Acute therapy is used in a general hospital for organic disease and the acutely ill. It is technical and expensive, and if the illness becomes chronic in the general hospital, the patient is sent to some nursing or convalescent home.

A state hospital has a second function—to provide treatment and housekeeping care to the chronically ill and infirm. It is difficult to fully correlate this function with the first. Here, re-education is an important part of the therapy, requiring a specialized staff of teachers in occupational and recreational therapy until the patient becomes re-integrated to living. This takes more time. Employment must be furnished for adjustable schizophrenics suitably to their level of conduct. A vigorous program of boarding-out care under the supervision of a social service worker must be instituted. Sixty to 70 per cent of state hospital patients need this type of therapy.

To correlate these two functions efficiently and economically in a state hospital is difficult. It does not solve the problem of mental health.

I wonder whether the general hospital has met its obligation to this problem. There are approximately 4,500 general hospitals in the United States, and only 127 accept and provide treatment for the mentally handicapped. It is in the general hospital that many emotional disorders most likely will appear; early attention to anxiety, fear and insomnia has great preventive possibilities for the future health of the patient. Psychiatry is a part of medicine—it is not a remote specialty—and I have observed a growing awareness that a psychiatric approach is useful in fully understanding surgical and medical problems.

I suggest that a psychiatrist become an integral member of each general hospital team, just as we have a surgeon and internist a member of our

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state hospital team. This team must have an increasing relationship to the community. The sick come from this community, and to the community they must return. We, as physicians, must all recognize the influence of environment, social and economic forces on ill health.

We cannot ask the state to solve all of the problems of mental disorders. Primarily it is a community problem, for are not mental disorders just as much illness as any organic disease? It is a policy of the Veterans Administration to have a mental ward in each one of their general hospitals, and I predict that this will be found in the general hospital in the future. There is an increasing need for this service. We have doubled the years of expectancy of human life. Every community has many more old people than they had sixty years ago. These are especially susceptible to mental illness; hence the latter is increasing.

We are living in restricted quarters; our social freedom is limited; therefore, when one in a family develops a mental illness, it is very important that he be removed from his home. To go to a state hospital requires legal approval. This takes time, and many families are reluctant to take this step, so he is kept at home and the prospect of help becomes less. All are willing to take him to a general hospital, and if he does not respond to treatment, it is much easier to accept advice to transfer him to a mental institution from that place.

It is regrettable to see a patient committed to a state hospital, be admitted, recover in a few weeks and go home, when he could have been treated elsewhere. There are those cases of excitement or depression or confusion where only a few days or weeks of hospitalization are sufficient to restore the equilibrium.

The complaint from the management of the general hospital is that the patient is restless, and may disturb the other patients. It is no reproach to a physician who orders sedatives, but noise from a children's or obstetrical ward is tolerated and accepted, and one cannot understand why a little disturbance from a psychiatric ward could not receive the same sympathetic understanding.

Therefore, it will aid in the problem of the mentally ill and will be a step forward in scientific care of psychotic patients if each general hospital will have a psychiatric ward. It is true that these cases are in the minority, but in the course of

time the number of short psychoses is considerable.

The community determines the standards with which the mentally ill are treated; therefore, it is highly important that the standards of community health be kept high, with the elimination of those factors which produce personality disorders.

The record shows that out-patient psychiatric clinics decrease the number of patients requiring a hospital bed. These clinics must be emphasized in the future, united with the efforts of physicians treating patients in their private offices.

Inadequate and immature individuals do not respond well to hospitalization; they only retreat farther from their responsibility of living. Cases of character neurosis are much more susceptible to treatment in a clinic than in a hospital. Michigan has established child guidance clinics rendering practical service in the matters of school failures and behavior problems. Clinics should become the center of public education, and with the approval and co-operation of the local medical society they will form a well-grounded medical approach to psychiatric problems. In fact, it is our hope that the center of psychiatric interest will be in the local communities and not in a state hospital.

The treatment of a major psychosis must always be based upon accepted scientific forms of therapy. Premature announcement of some new form of treatment, especially in the public press, is eagerly accepted by anxious relatives; newspaper articles are studied with increasing hope, and if this form of therapy fails or is not used, confidence in scientific men is lost.

Psychiatry is a relatively new specialty. Because of its popular interest I have been impressed with the fact that too much is expected. It is a common slogan: "See a psychiatrist." Psychiatrists are not miracle men. Much research is needed. The knowledge gained through sound investigation, as is now sponsored by the Scottish Rite, Northern Masonic Jurisdiction, in schizophrenia, is stimulating.

It has been estimated that about 60 per cent of the patients coming to a general practitioner have some psychological problem which contributed to the start of the illness or retards recovery. Every physician must include in his examination, diagnosis and treatment an understanding of his patient.

The term "psychosomatic medicine" is used to denote a comprehensive view of the patient. Research in this field of comprehensive medicine is

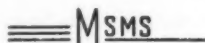
making marked progress, especially in such projects as chronic arthritis, peptic ulcer and hypertension. Psychiatric treatment is in need of much more scientific research.

It is the purpose of this paper to call attention to the problem of care and treatment of the mentally ill. For the state to build bigger and better hospitals is not enough. If these hospitals are inadequately staffed, proper therapy cannot be applied, and this only multiplies the number of those who will not be cured and who will remain in an institution for the remainder of their lives.

It is our hope that the day will come when state hospitals will be on a parity with general hospitals, when they will be regarded as integral parts of a social community and their patients will receive the same individualized treatment and care as for any illness. This will come when thinking men and women fully realize the fact that we are our brother's keeper.

Conclusion

1. Michigan needs 3,200 hospital beds to eliminate overcrowding and to house those patients in private institutions; 450 beds must be added each year to meet the needs of increasing population.
2. Each general hospital should offer psychiatric service to its community; this will decrease the number of commitments.
3. Child guidance and out-patient clinics are important agencies in the solution of this problem.
4. State hospitals and standards of care and treatment are only as good as we demand that they be. We get what we pay for. We, as scientific men, cannot afford to be indifferent to this problem.



Cancer never develops in healthy tissue.

* * *

The microscope in the hands of a competent physician is the court of last resort in the diagnosis of cancer.

* * *

Eighty per cent of cancer of the uterus can be diagnosed without a surgical operation beyond a biopsy.

* * *

Not more than ten to fifteen per cent of single painless lumps in the breast are cancer, but microscopic examination is necessary to decide.

* * *

Time is the most important factor in the control of cancer. Do not delay your diagnosis.

THE PRACTICAL USES OF PHYSICAL MEDICINE

(Continued from Page 1160)

physical medicine for relief of human suffering. If all of us can strengthen our ethics to keep pace with our physics, if our education, tolerance and understanding can keep up with our capacity to destroy, if we can advance our social engineering to keep abreast of our electrical engineering, we may yet make this precarious age of physics the greatest of all ages. The new developments in physical medicine are contributing toward this end.

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The Front Line in Rheumatic Fever Control

Rapid progress has been made by the Michigan State Medical Society in launching the present aggressive Rheumatic Fever Control Program. With the first-of-the-year appointment of Leon DeVel, M.D., as coordinator for integration and standardization of the thirty Rheumatic Fever Diagnostic Centers, the program obtained a competent full-time administrator. A considerably increased volume of educational material is already in circulation among Michigan medical circles and publications. Every co-operation is being afforded the Michigan Department of Health in the expansion of its educational literature and facilities on the subject. This number of THE JOURNAL, publishing papers originally presented during the 1949 "Heart and Rheumatic Fever Day," represents one aspect of these efforts.

But the program cannot be fully successful until every practitioner of medicine is thoroughly acquainted with facilities for the care of his patient offered through the Diagnostic and Consultation Center in his area. In rheumatic fever, as in so many medical problems, the front line is the general practitioner rather than the specializing consultant. But the difficulty in diagnosing and determining the activity status of rheumatic fever and rheumatic heart disease, inherent in the absence of specific clinical tests, and the resultant time-consuming study required make it imperative that each general practitioner employ every available aid. This is one of the prime objectives of the educational phases of the program.

The clinical phases of the program are properly in the hands of local committees, and in a sense are of least concern, since they are grounded in the high standards of Michigan medical practice today. But such Centers cannot function without case referrals, and it must be the responsibility of each County Society's membership to insure the appointment of active and interested personnel to these committees and to encourage extensive use of the facilities they provide. Each local Society can also assist by increased use of the available educational material and round-table discussions on rheumatic fever in their scientific programs. Every general practitioner must be made rheumatic fever conscious and encouraged to seek the assistance of a Center in troublesome cases.

W.E. Barstow M.D.

President, Michigan State Medical Society

President's



Page

Postgraduate Continuation Courses

WAYNE UNIVERSITY COLLEGE OF MEDICINE

September 12-December 3, 1949

These courses are open to all qualified persons.

Veterans who are not Residents in a Detroit hospital and who have Certificates of Eligibility under the GI Bill, should make arrangements for tuition and books, as provided by the GI Bill, by presenting these Certificates of Eligibility to Mr. Arthur Johnson, Veteran's Administrator at Wayne University, 5001 Second.

If you do not possess a Certificate of Eligibility, please call Mr. Johnson at Temple 1-1450, Veterans Affairs, before going to his office, and he will inform you what papers it is necessary to bring with you. *This must be completed before you register.*

Registration for these courses can be made in the office of Postgraduate Medical Education at the College of Medicine, 1512 St. Antoine *before September 10.*

Title of Course	Place	Time	Fee
PATHOLOGY			
Surgical Pathology	College of Medicine	Wednesday 1:00-5:00	\$50.00
PHYSIOLOGY AND PHARMACOLOGY			
Survey of Pharmacology	College of Medicine	Tuesday 4:00-5:00	\$15.00
PHYSIOLOGICAL CHEMISTRY			
Physiological Chemistry Seminar	College of Medicine	Wednesday 4:00-5:00	\$15.00
Biological Catalysts	College of Medicine	Friday 1:00-2:00	\$15.00
DERMATOLOGY			
Seminar in Dermatology	Receiving Hospital	Wednesday 10:00-11:30	\$15.00
Seminar in Dermopathology	College of Medicine	Tuesday 11:00-12:00	\$15.00
Conference on Venereal Diseases	Social Hygiene Clinic	Thursday 4:00-5:30	\$15.00
INTERNAL MEDICINE			
Medical Seminar	Receiving Hospital	Thursday 6:30-7:30	\$15.00
Medical Conference	Receiving Hospital	Saturday 10:30-12:00	\$15.00
Gastroenterology	Receiving Hospital (Limit 10)	Saturday 8:00-9:00	\$15.00
Medical X-Ray Conference	Receiving Hospital (Limit 10)	Tuesday 11:00-12:00	\$15.00
Electrocardiography	College of Medicine	Thursday 4:30-5:30	\$15.00
Allergy Clinic	Receiving Hospital (Limit 8)	Tuesday 8:00-11:00	\$25.00
SURGERY			
Seminar in Surgery	College of Medicine (Limit 20)	1 hour per week	\$15.00
(Day and time to be arranged)			

Editorial

BE ON GUARD

WE HAVE experienced three new approaches to the Federal control of medicine; three Federal programs unfavorable to the medical profession; three attempts to invade private enterprise and to advance State Socialism. The first was the proposed extension of the Federal Social Security to include all self-employed persons. It required active and persistent effort and pressure from every angle. The committee working on this program has decided to eliminate the medical profession when writing the new bill. Rural people, wanting none of these proposed old age benefits, had been active long before we were, and had been eliminated. The plan was to assess each self-employed person the Social Security rate of from 2 per cent to 3 per cent or more and make them eligible for old age retirement benefits, which most of us would never be able to enjoy. The particular danger is now apparently past.

The second is the president's Reorganization Plan No. 1, which is an outgrowth of the Hoover Commission Task Force Report in which a separate Department of Health was recommended. Congress authorized the President to make Executive Department changes. The first one proposed was to elevate the Federal Security Administrator to Cabinet rank, and include in this department all medical and health administrations, in direct contradiction to the very specific recommendation of the Hoover Commission, thus giving Oscar Ewing much more opportunity to carry out his compulsory health program, which is the socialism of medicine.

As this is written, Congress has just held hearings on this Reorganization Plan. Senators Taft and Fulbright introduced a Resolution (No. 147) which would reject this plan. The Committee on Expenditures voted in favor of the resolution. Under the law, if one house of Congress rejects the President's plan it will not become effective. Otherwise, it is established by Executive Order.

The medical profession had begun to feel that the Wagner-Murray-Dingell threat was temporarily asleep, but the announcement recently was made that this program of compulsory health insurance will be a part of the next Congressional

campaign. Five states will be the focal point, receiving the benefit of all of the power of Government in carrying out this program. If Mr. Ewing and his department are raised to Cabinet rank, his influence on the coming election may be tremendous. Congressman Harness reported that the department spent 75 million dollars in propaganda for socialized medicine in 1947. What will they spend in 1950?

The third approach is the National School Aid Program, which was temporarily halted by Cardinal Spellman and his controversy with Mrs. Roosevelt. The program carries with it medical aid to school children with no reference to their ability to pay. Under this scheme the government takes over the health services of all school children, and advances socialized medicine by many millions of persons. Cardinal Spellman's blast which delayed the enactment of the act was that he asked the same auxiliary benefits (other than religious) for private school children as planned for other schools. He thought health benefits, transportation to school and generally supplied textbooks should be made available to all school children, if the Government makes them available to any. We object to the "free" health benefits, because that is definitely political medicine.

WHAT OF THE FUTURE?

IF PROFESSIONAL men—medicine, dentistry, law, architecture—wish to protect their own interests, they must always be on the alert. They must propose programs much more often than they oppose them. Very soon our Congressmen will be home for a vacation. Every member of our profession ought to interview his Congressman and express his views.

An item which we might well consider: The so-called "learned professions" are very peculiarly situated. Men in these professions, in large numbers, have become sufficiently productive to earn fair incomes during a very short period of their lives. By age thirty-five they are well established. At best they enjoy fifteen or twenty active years, after which their productive period declines.

Our income tax laws are so arranged now that these men have to pay high bracket income taxes on their incomes, thus preventing the accumulation of adequate reserves. In later years, when of necessity they must do less work and have smaller incomes, many of them have financial difficulties because of higher level of living.

There is a provision in the income tax law by which certain organizations, instead of paying their responsible executives high salaries, may invest part of their salary in approved types of annuity insurance. The amount used to purchase this insurance is not taxable at the time earned. But the returns from the insurance are taxable as they are received.

Income tax laws now provide for especial treatment of long term "capital gains." If an investment has been over six months, and makes a profit when sold, this is divided in half, and the maximum tax is fixed at 25 per cent. This provision could be extended to approved annuity insurance. In this way, a man could build up an income estate for his aging years, which he cannot do now when he is paying the high income bracket taxes.

Why not request your Congressman to provide, in the tax laws, a method by which self-employed persons, who of necessity have only a few years of relatively high income life, may have the same advantage that executive employees in industry now have?

AGENDA

THE FOLLOWING group of editorials express so thoroughly and explicitly a problem of the whole medical profession that we are republishing them entirely. They appeared in the *Detroit Medical News* and are from the pen of William Bromme, M.D.

Agenda—1

When the doctors of Michigan established a voluntary prepayment plan to meet the problem of providing professional service for a specific low-income group, they committed themselves to giving what they promised to this group.

Early, the plan overstepped the established income level when it wrote policies for entire organizations: and the amount of confusion that resulted from this continues today—so that there is uncertainty as to what income limits are valid and when a patient may reasonably be expected to pay a professional fee over and above the plan's schedule.

As the plan expanded, three things happened.

First, there was a gradual rise in income for the group for whom the plan was originally designed from around \$2500 to over \$4000. The income level stipulated by the plan has not taken this into account. Second, the premium rates have not risen appreciably and the schedule of payments for professional services has remained generally at the 1942 level except in a few items. The third element has been the increasing recognition that prepayment systems can and do work without government control, and are capable of great expansion.

When one comes onto the fact that about 40 per cent of the subscribers to the plan are being billed for professional service over and above the fees paid by the plan, or that thirteen in fourteen subscribers undergoing a surgical procedure for which the established fee is \$100 or more will be billed for an additional fee by the doctor, it becomes apparent that a prompt resurvey of *income limits and professional fees* must be carried out so that what is Medicine's effective answer to the threat of governmental medicine may be carried further to the millions who recognize the good in voluntary prepayment plans and want their benefits.

Agenda—2

Prepayment plans for providing medical care are essentially a contractual relationship between consumer and provider. It must be pointed out again that there is serious danger in two aspects of this. One is the risk of freezing the income limitations at a level which will shortly become inconsistent with actual income. The other is the risk of freezing the fee schedule for professional service at a point which is incompatible with the going fee for comparable service—and thus open to question the validity of the program because of the inevitable levying of additional fees by the practitioner dispensing the professional care.

I have no idea how valid the thesis is today, but about a year ago many of us were impressed by the notion, subsequently carried into a contract between industry and labor, that wages could be pegged to increments or falls in the cost of living and that real wages would rise or fall in a manner paralleling this statistical yardstick. One of the widespread misunderstandings about our own voluntary prepayment medical program has involved the fact that income limits established arbitrarily were quickly outmoded by the times and that the fee schedule for services rendered under the plan was likewise frozen at a level which quickly became a fringe payment for a fringe benefit without correlation with the economics of the times or the actual value of the service rendered. This program, it must be remembered, was not one of assistance to a governmental agency (which we would be subsidizing reconditely through taxation) or to the indigent.

Accordingly, the surveys which tend to show that up to 42 per cent of the participants in the plan received billings for additional professional fees by the practitioner providing the professional care simply point up the fact that fee schedule and income limitation must be flexible and in relation to the general economic picture of the area served.

Agenda—3

When the problem of income limitation and fee schedule have been defined, and the agreement is understood as a contractual relationship, there arises the question if the plan for prepayment of medical care shall be designed to create a profit or, instead, if surpluses accruing from its operation should be used to expand the plan and extend its benefits.

It would be difficult to justify an organizational profit in the providing of medical care although it must be said that considerable medical care is currently purchasable through agencies whose relation is not completely altruistic. It would be of interest to see what would happen to such current programs which provide partial indemnification if there were no need for them to provide profit for their shareholders. It would likewise be of interest to compare the actual benefits provided per unit of consumer's premium against the benefits afforded by the non-profit programs.

But this is of a kind with governmental proposals to undertake widespread medical care for a segment of the tax dollar—and a newly created segment, at that. For what would become profit to the private company would become extra payroll for a governmental agency—and in either instance a sizeable percentage of the payment made by the subscriber could never return to him in the form of medical benefit which he desired to obtain.

Consequently, the agenda must clarify the position of whether there is to be organizational profit or not in the providing of medical care on the wide scale.

Agenda—4

How much medical care is to be provided under a prepayment plan? Shall it be complete coverage as the British system aspires to provide? Shall it be complete as the current governmental proposal promises? Shall it be complete and full as the text of labor's bargaining position demands?

I do not believe we have any statistical information to prove the point that full coverage is needed. One cannot accept the statistics from the British labor government without recalling the fiscal state of that government. One cannot accept the estimates of Mr. Ewing's organization particularly as expressed in the so-called Ewing Report since the figures are manipulated to match a philosophy, the truth to the contrary: the only valid conclusion is that there is wide variation in accessibility to medical care. One might be able to draw

a conclusion from the current Kaiser-Frazer, U.A.W.-CIO, Blue Cross, Blue Shield experience, in which the union welfare funds have been used to indemnify the local member against medical costs not covered through Blue Cross-Blue Shield. And if it can be shown that insecurity has stemmed from the costs of medical care beyond the coverage of the insuring system, it must be concluded that for an automobile worker in a given locale the coverage should be broadened.

The broadest coverage anywhere will not compensate for lack of facilities, and these do not arise overnight through the signing of a legislative act. There is, incidentally, no limit to the coverage possible through Blue Cross-Blue Shield.

Somewhere, through the entire structure of these proposals for widened coverage there recurs the question of why the elementary problem of medical care must be diverted from the individual to the state, the employer or the consumer organization.

WILLIAM BROMME

NEW TRENDS IN THE TREATMENT OF ALLERGIC DISEASES

(Continued from Page 1143)

constituent from inhaled and ingested antigens, a contact factor, and secondary infection. Treatment is so difficult because it must be directed simultaneously towards control of all three elements of this disease.

In contact dermatitis, I believe the detection of causes has been aided considerably by a new classification developed by myself and Shea, based on patterns of the lesions. This classification often leads to the causative diagnosis and thus to the establishment of a cure.

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The Michigan Rheumatic Fever Control Program

The Michigan Rheumatic Fever Control Program had its beginnings in April, 1945, at a meeting of the MSMS Preventive Medicine Committee which recommended to The Council that a project for the control of the disease in Michigan be undertaken. The Council approved the recommendation and a Rheumatic Fever Control Committee was appointed by the President of the Michigan State Medical Society. Co-operating agencies which co-operate financially and otherwise are the Michigan Heart Association, the Michigan Society for Crippled Children and Adults and the Michigan Crippled Children Commission.

One of the first actions of the Rheumatic Fever Control Committee was to formulate the principle that this program be primarily and fundamentally educational; that it should concern itself first with the dissemination of our present knowledge and management of rheumatic fever and of rheumatic heart disease among the physicians of this State. The need for more knowledge is shown by the fact that, paradoxically, a number of rheumatics go unrecognized—as shown by Selective Service and Army and Navy statistical data and at the same time the disease is being over-diagnosed with resultant psychic trauma. The protean nature of rheumatic fever, the lack of understanding of its true etiology, the insidiousness of its progress, the complications of its management, all contribute to make it a real problem.

Educational features for the physician are: scientific publications in *THE JOURNAL MSMS* and in the County Medical Society Bulletins; special scientific sessions such as the Heart and Rheumatic Fever Day held annually in connection with the Michigan Postgraduate Clinical Institute with essayists of national renown; local rheumatic fever programs under the auspices of the county medical societies and hospital staffs; the Rheumatic Fever Diagnostic and Consultation Centers.

How the Rheumatic Fever and Consultation Centers Work

The Rheumatic Fever Diagnostic and Consultation Centers are the feature activity of the program; their statewide distribution makes their services available to all physicians. *The Rheumatic Fever Center does not treat patients; its services are diagnostic and consultative only.* Its primary concern is to help the doctor arrive at a definite diagnosis and to offer suggestions for treatment and management if these are desired. The referring physician receives the report of the Center's findings and recommendations but remains in sole command and carries the responsibility of management. *The patient remains his patient.*

In consideration of the fact that the physicians who work in the Center volunteer their time and skill, it behooves the referring physician to choose his patients for referral with discretion; first, there should be reasonable suspicion of rheumatic fever or rheumatic heart disease, or a problem in management for which he seeks aid; second, referrals should be limited to those families upon whom comparable diagnostic studies in his colleagues' offices might inflict undue financial hardship. *Admission to a Rheumatic Fever Center is by referral from a physician only.*

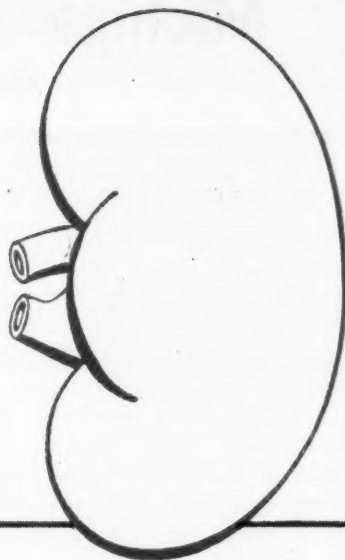
Another "First"

The Michigan Rheumatic Fever Control Program is another "first" in a long list of "firsts" for which Michigan Medicine is nationally known. Every member of the Michigan State Medical Society should feel individually responsible for its success, either through active participation in the operation of the Centers or through continued support in using the diagnostic and consultation services which they offer.

The Michigan Rheumatic Fever Control Program is for the use of the Doctor of Medicine and for the benefit of his patients. *

To increase sodium excretion

"Thus it becomes apparent that Aminophyllin is a diuretic agent in that it can mobilize and excrete fluid and sodium even in the face of decreased intake."¹

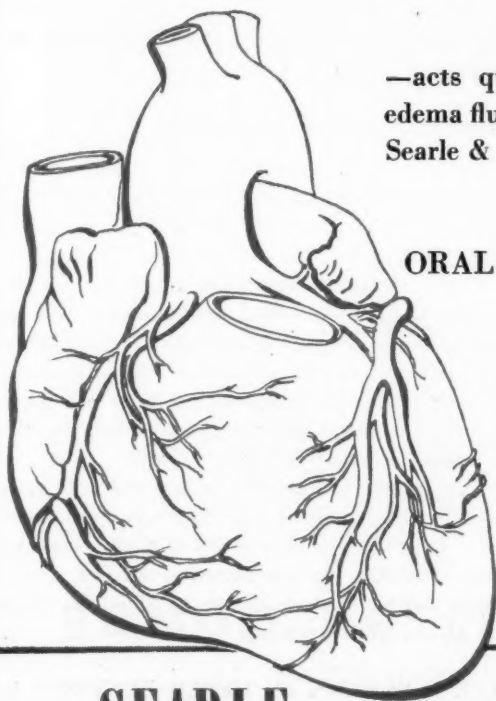


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—acts quickly and efficiently to eliminate edema fluids in congestive heart failure. G. D. Searle & Co., Chicago 80, Illinois.

**ORAL—PARENTERAL—RECTAL
DOSAGE FORMS**



*Searle Aminophyllin contains at least 80% of anhydrous theophylline.

SEARLE RESEARCH IN THE SERVICE OF MEDICINE

1. Brown, W. E., and Bradbury, J. T.: The Effectiveness of Various Diuretic Agents in Causing Sodium Excretion in Pregnant Women, *Am. J. Obst. & Gynec.* 56:1 (July) 1948.

Michigan's Department of Health

Albert E. Heustis, M.D., Commissioner

CAUSES OF DEATH

Only two communicable diseases, pneumonia and tuberculosis, remain among the ten leading causes of death in Michigan during 1948, and of these, tuberculosis has moved down from eighth to ninth place, exchanging with diabetes. Pneumonia remained in sixth place. Vital statistics for the year indicate that less than 10 per cent of the 56,520 deaths in the state were due to acute communicable diseases.

Heart disease continued to lead all other causes of death. There were about two and a quarter times as many deaths from heart disease as from cancer, the next cause of death.

Cancer, including leukemia and aleukemia, caused 8,261 deaths in 1948 in comparison with 8,100 in 1947.

Apoplexy was in third place causing 5,170 deaths in 1948 in comparison with 5,293 in 1947.

Accidents remained in fourth place, but deaths due to accidents increased from 3,848 in 1947 to 4,017 in 1948.

Other major causes of death in their order were: Nephritis, pneumonia, premature births, diabetes, tuberculosis and arteriosclerosis.

A comparison of the ten major causes of death for the past three years follows:

TEN LEADING CAUSES
(In order of 1948 incidence)

	1948	1947	1946
Heart Disease	18,726	18,412	17,691
Cancer (includes Leukemias and Aleukemias)	8,261	8,110	7,749
Apoplexy	5,170	5,293	5,090
Accidents	4,017	3,848	3,776
Nephritis	2,473	2,567	2,530
Pneumonia	1,853	2,089	1,891
Premature Births	1,820	1,953	1,735
Diabetes	1,771	1,618	1,530
Tuberculosis	1,561	1,643	1,843
Arteriosclerosis	1,085	1,031	933

HEALTH FILMS

Four new films of interest to the medical profession have been added to the film loan library of the Michigan Department of Health. They deal with cancer, nursing recruitment, child psychology and the adjustment of the new baby in the home.

A Question in Time is a new 20-minute sound film produced by the American Cancer Society, which asks and answers in clear simple terms those questions about cancer which are most commonly addressed to doctor-speakers by lay audiences. It should prove invaluable where it is impossible to provide a doctor-speaker for such a group. The film demonstrates dramatically how fear can be dispelled with proper knowledge. It is intended primarily for adult groups.

Girls in White is a new 16 mm. 20-minute sound film, produced by RKO-Pathe in its documentary series, "This is America." It is especially of value in recruiting nurses. The film accurately portrays life in a hospital school of

nursing, and the opportunities afforded in a nursing career. Both nursing and hospital groups advised in the production of the picture. The film is licensed for showing by recruitment groups, schools of nursing, nursing organizations and other educational institutions.

Let Your Child Help You is an 11-minute sound film, with content and narration by Dr. Alice V. Keliher, noted specialist in child psychology. It shows how very young children may help at home and thus achieve a sense of accomplishment and responsibility as well as increase of skill. It is recommended for child study groups.

Martha Belongs, 10-minute, sound, color film produced by the University of Wisconsin, deals with the adjustment of the new baby in the home, giving tips for bathing, feeding, dressing and the adjustment of other children to the new baby. It develops the newer theories of self-demand feeding and the giving of attention when needed. It is suitable for showing to homemaking classes, expectant mothers and parents.

The Film Loan Library of the Department has films, film strips and slides on 150 different health subjects for all age levels which may be borrowed for showing to community service, school and professional groups.

A catalog containing descriptions of the films and the age levels and groups for which they are suitable can be had without cost by writing to the Michigan Department of Health, Lansing 4, Michigan.

BLOOD PLASMA RESEARCH

For a study to develop new methods and evaluate old methods of fractionation of blood plasma, Michigan Department of Health has received an American Red Cross grant of \$32,278.

The laboratories which are among the most advanced in the country in blood fractionation will attempt to find methods to recover the albumin and globulin from outdated plasma and to extend the period of usefulness of these particular components. They will also endeavor to find other ways of extending the benefits of each unit of collected blood to more persons.

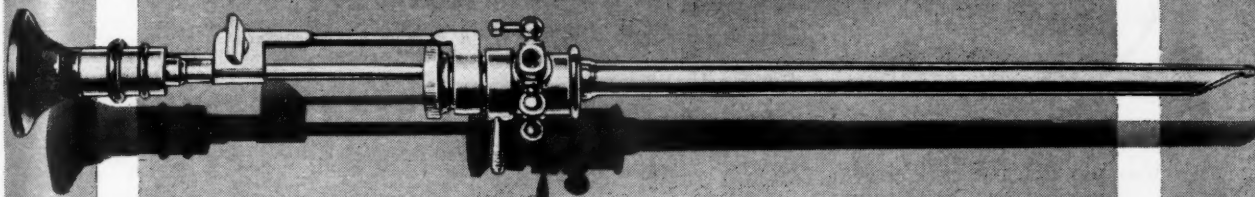
The present grant will cover research involving the work of five scientists and four other employees for one year. It is the first of a series of grants expected to total about \$80,000 for fractionation studies, the results of which will be made available to blood fractionation centers of the entire country.

BLOOD PLASMA IN UPPER PENINSULA

To make free blood plasma available wherever it is needed in Michigan's upper peninsula, the Michigan Department of Health in co-operation with the American Red Cross is conducting a concentrated 15-county blood procurement campaign in that area.

Procurement centers are being set up in 18 cities in the
(Continued on Page 1178)

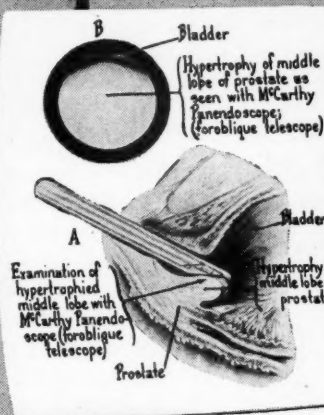
McCARTHY FOROBLIQUE PAN-ENDOSCOPE



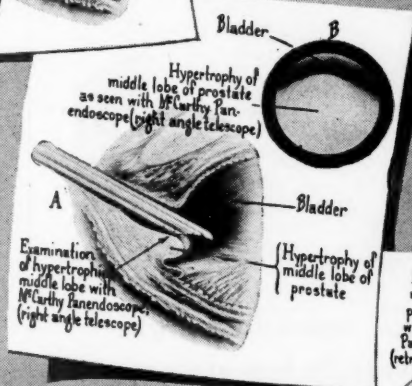
This appropriately named cystoscope possesses such broad utility that it has become one of the most widely used instruments in urology.

Essentially the armamentarium consists of straight sheaths, a foroblisque telescope and a bridge assembly for relating these elements. Sheaths are available in sizes 16 to 30 Fr. The telescope is the well-known McCarthy Foroblisque System noted for its natural, "amphitheatre", visual characteristics. Supplementary retrograde and right angle examining telescopes are also available for detailed inspection of all parts of the bladder and prostatic orifice.

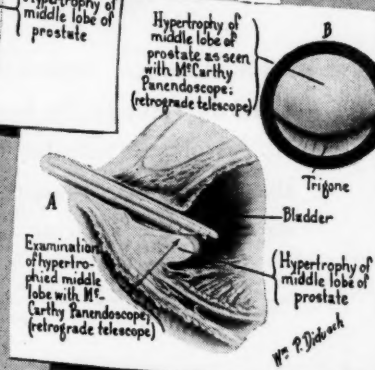
"Foroblisque" is our registered trade mark to designate our obliquely forward visual telescopic system.



The illustrations are part of a series, admirably executed by Mr. William P. Didusch, showing the technique of the Pan-endoscope. The entire series and a complete description of the instrument and its accessories will be furnished upon request.



The sectional views above, and as right, show clearly the possibilities of accurately interpreting the extent of prostatic hypertrophy and its relation to the vesical orifice.



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"CRAMPS IN THE LEGS"



When the signs point to peripheral vascular disease, collateral circulation may be increased by use of a Burdick Rhythmic Constrictor.

The Rhythmic Constrictor is easy to use and quiet; it may be employed while the patient sleeps. Its effectiveness is demonstrated by symptomatic relief and objective benefit, such as increased oscillometric readings.



Recent clinical reports have emphasized the value of this form of therapy in peripheral vascular disease. Use the coupon for an authoritative abstract on the subject.

Gentlemen: Send me report of a recent clinical investigation on Rhythmic Constriction.

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BLOOD PLASMA IN UPPER PENINSULA

(Continued from Page 1076)

Upper Peninsula during August and September. Blood given in these centers will be fractionated in the Michigan Department of Health Laboratories and returned to the communities for free use in case of emergencies requiring plasma or other blood products.

Procurement centers were scheduled for Chippewa, Luce, Alger, Marquette, Menominee, Dickinson, Iron, Gogebic, Ontonagon, Houghton, Keweenaw, Baraga, Delta, Schoolcraft and Mackinac counties during August and September.

The Upper Peninsula campaign is a part of the state-wide continuing free blood plasma program being carried on by the Michigan Department of Health with the co-operation of the American Red Cross.

MICHIGAN'S DIVORCE RATE LOWER

Michigan's divorce rate has been cut in half in the past two years, the Michigan Department of Health announced today. The marriage rate has declined a fourth in the same period.

Both divorces and marriages are continuing the downward trend which followed the war-created 1946 peak. Still Michigan's average of one divorce for every 3.9 marriages exceeds the national average of one divorce for every 4.4 marriages.

Records in the Statistical Section of the Michigan Department of Health show that while 10 people in every thousand in Michigan got divorces in 1946, 5 in every thousand got divorces in 1948 and that while 28 in every thousand undertook marriage in 1946, 20 in every thousand undertook marriage in 1948.

Marriages declined from an all time peak of 78,808 in 1946 to 61,986 in 1948. Divorces declined from a peak 29,158 in 1946 to 16,017 in 1948. Actual rate of persons married per one thousand estimated population in 1946 was 27.6 and in 1948 it was 20. Actual rate of persons divorced per one thousand estimated population in 1946 was 10.2 and in 1948 it was 5.2.

VENEREAL DISEASE

To lead every Michigan person who may have been exposed to venereal disease to suspect infection and to go to his physician for examination and treatment is a major goal of a summer venereal disease education campaign undertaken in the state.

Comic books, fair midway shows, true confession type magazines, leaflets, motion pictures, radio, pamphlets, newspapers, and word of mouth are the educational media being used to direct attention to the state's No. 1 communicable disease problem.

The Michigan Department of Health aided local health departments in organizing local educational campaigns, meetings and publicity to coincide with similar effort throughout the nation.

Other goals of the current educational campaign, which is aimed at reducing venereal disease from first place among communicable diseases in Michigan, are: to in-

(Continued on Page 1180)

BROMURAL

Council Accepted

BROMURAL

the non-barbiturate sedative

prescribe Bromural for daytime sedation, one tablet every three to five hours. For sleep, 2 or 3 tablets upon retiring or when wakeful during the night.

BROMURAL, brand of Bromisovalum, monobromisovalerylurea, is available as 5-grain tablets and in powder form.

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DRINK
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TRADE MARK REG.

You trust
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SABEL'S CLUB FOOT SHOE

FOR
INFANTS, CHILDREN,
MISSES, YOUTHS AND BIG BOYS



RIGHT

LEFT

Dotted line on cut shows outline of normal shoe. Shoe cut shows abnormal outward swing of Sabel's Club Foot Shoe.

Sabel's Club Foot Shoes are for use after the doctor has over-corrected the position of the club foot. The outward swing of this shoe braced by the long outside counter will tend to keep the position the doctor desires.

Sabel's Surgical Shoes are carried in pattern and leather matching the Club Foot Shoes so that where required, even in split sizes, they can be fitted to the other foot.

The Sabel Line, includes, in addition to the Club Foot, the Pre-walker, Brace, Pigeontoe and Surgical Shoes

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CORRECT SHOES FOR MEN AND WOMEN
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Opposite Women's City Club

Stuart J. Rackham
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Manager

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VENEREAL DISEASE

(Continued from Page 1178)

fluence human behavior to the extent that persons will avoid contracting a venereal disease; and to stimulate community action to abolish conditions in the community which might lead to promiscuity.

* * *

The 29th Annual Michigan Public Health Conference will be held in Detroit, November 9 to 11, 1949, with headquarters at the Hotel Statler.

* * *

Alexander M. Campbell, M.D., obstetrical consultant with the Section of Maternal and Child Health retired August 1, after more than 10 years of service with the Department climaxing a distinguished career in private practice and public health.

* * *

Max Stebbins and Serge Lensen, Ph.D., of the Section of Virology of the Department are authors of an article on "The Golden Hamster as an Experimental Animal for Poliomyelitis Research" in the June issue of Proceedings of the Society for Experimental Biology and Medicine.

* * *

Visitors from China, Siam, and Honolulu studied in the Department during July. They included: Dr. H. C. Tien, professor and dean of public health of Kweichow, China; Dr. Richard K. C. Lee, M.D., D.P.H., Assistant Health Executive, Board of Health, Honolulu, and Dr. Kammuen Debmani, of Public Health Service, Siam.

* * *

INCIDENCE OF CERTAIN REPORTABLE DISEASES

Disease	July, 1949	July, 1948
Diphtheria	6	5
Gonorrhea	729	797
Lobar pneumonia	67	58
Measles	934	2,078
Meningococcic meningitis	10	6
Pertussis	336	115
Poliomyelitis	298	40
Rheumatic fever	33	24
Scarlet fever	110	117
Syphilis	558	966
Tuberculosis	519	776
Typhoid fever	4	4
Undulant fever	11	28
Smallpox	0	0

Many testicular tumors often have a small associated hydrocele.

* * *

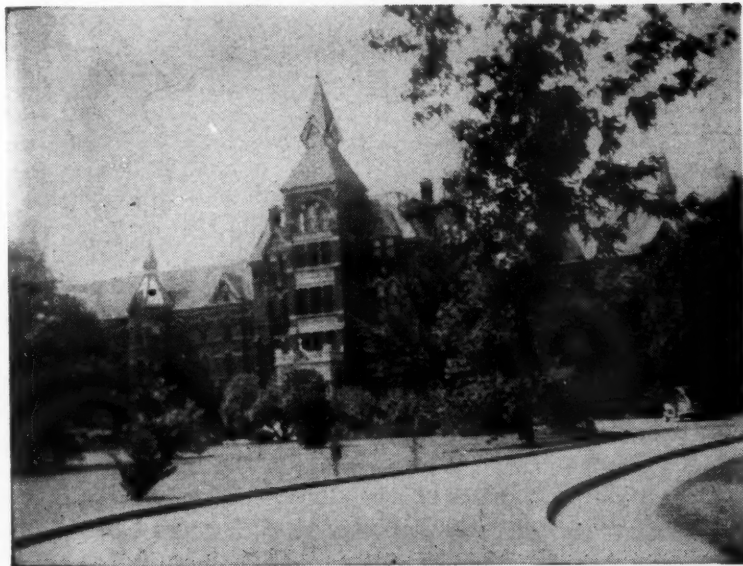
No case of cancer of the penis has been described in a man who was circumcised soon after birth.

* * *

Practically all primary malignancies of the bladder are epithelial in origin.

• Licensed by State of Michigan, Dept. of Mental Health • Registered by American Medical Association

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Newly reorganized and modernized for individualized care and treatment of the nervous and mentally ill and alcoholics.

*Martin H. Hoffmann, M. D.
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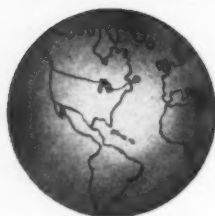
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NEWS MEDICAL

1948 Michigan Rural Health Conference Booklet Available. An attractive brochure chronicling the activities and accomplishments of the Second Annual Michigan Rural Health Conference held last Fall in East Lansing is now available free through requests made to the Michigan Health Council, 706 North Washington Avenue, Lansing, Michigan.

In addition to detailing the meetings and discussions of the 1948 Conference, the brochure is valuable as a guide to the problems that will appear during the course of the 1949 Conference to be held in Grand Rapids, October 28-29.

* * *

Michigan Doctors of Medicine who registered at the American Medical Association annual session in Atlantic City last June included:

Tuesday, June 7, 1949.—B. H. Bader, Detroit; Charles J. Barone, Highland Park; Morrison D., Beers, Detroit; William C. Behen, Lansing; Albert E. Bernstein, Detroit; David S. Brachman, Detroit; Morris M. Braverman, Detroit; Philip H. Broudo, Detroit; A. S. Brunk, Detroit; Mary B. Campbell, Port Huron; Harry E. Carnes, Detroit; M. S. Chambers, Flint; William P. Chester, Detroit; Daniel E. Cohn, Detroit; Joseph H. Curhan, Detroit; Carleton Dean, Lansing; Frederick W. De Young, Spring Lake; Robert K. Dixon, Detroit; Howard P. Doub, Detroit; Thomas Eichkhorst, Flint; David B. Dolese, Detroit; L. Fernald Foster, Bay City; Mary Margaret Frazer, Detroit; Harold A. Furlong, Pontiac; Nathaniel Gates, Detroit; Norman K. H'Amada, Detroit; Clyde K. Hasley, Detroit; Wilfrid Haughey, Battle Creek; Dan R. Herkimer, Lincoln Park; William A. Hudson, Detroit; W. Leonard Howard, Northville; Alice S. Bush Whipple, Lapeer; H. A. Jarre, Detroit; Charles G. Johnston, Detroit; Harry Kirschbaum, Detroit; James Lightbody, Detroit; Fred P. Maibauer, Wyandotte; Joseph M. Markel, Dearborn; John G. Matter, Detroit; Daniel B. Marcus, Detroit; Ray S. Morrish, Flint; Coleman Mopper, Detroit; John M. Murphy, Detroit; William A. Murray, Detroit; Max Karl Newman, Detroit; Grover C. Penberth, Detroit; Pauline Pevin, Detroit; Joseph L. Posch, Detroit; William D. Robinson, Ann Arbor; H. C. Robinson, Grand Rapids; James R. Rogin, Detroit; Harry C. Saltzstein, Detroit; David J. Sandweiss, Detroit; W. Harvey Shipton, Detroit; Harper G. Sichler, Lansing; M. M. Silverman, Detroit; Edward F. Sladek, Traverse City; Hugh H. Steele, Detroit; Eugene J. Steinberger, Detroit; Charley J. Smyth, Plymouth; Har-ray L. Stewart, Jr., Detroit; Clayton K. Stroup, Flint;

Cyrus C. Sturgis, Ann Arbor; David L. Sugar, Detroit; Burt R. Shurly, Detroit; Milton R. Weed, Detroit; C. J. Williams, Grosse Pointe; Alfred H. Whittaker, Detroit; Samson S. Wittenburg, Detroit; Warren Wood Babcock, Detroit.

Wednesday, June 8, 1949.—Frank H. Bethell, Ann Arbor; Earl L. Burbidge, Kalamazoo; Charles M. Burgess, Detroit; Ralph M. Burke, Detroit; Joseph Carp, Detroit; Sidney Charnas, Detroit; Ronald E. Clark, Detroit; Wyman C. C. Cole, Detroit; Robert L. Cowen, Detroit; Harold D. Crane, Grand Rapids; Clarence E. Crook, Ann Arbor; J. S. DeTar, Milan; C. H. Eisman, Detroit; Louis J. Garipey, Detroit; Abe S. Goldstein, Detroit; Hilda A. Habenicht, Jackson; F. W. Hartman, Detroit; Fred Jenner Hodges, Ann Arbor; John P. Hubbard, Detroit; S. Sprigg Jacob, East Lansing; Robert H. Juzek, Ann Arbor; Zeno L. Kaminski, Detroit; David N. Kilmer, Reed City; T. Kolyoord, Battle Creek; Adam W. Kossayda, Detroit; Virginia D. Lanzun, Detroit; Fred O. Lepley, Detroit; T. Leucutia, Detroit; Arthur G. Liddicoat, Detroit; Norman L. Lindquist, Escanaba; Earl F. Lutz, Detroit; Richard S. Malone, Detroit; R. M. Martin, Detroit; J. Earl McIntyre, Lansing; Howard H. McNeill, Pontiac; Muriel C. Meyers, Ann Arbor; P. B. Northouse, Grand Rapids; Edward J. Panzner, Detroit; S. M. Pearson, Bay City; Carol Platz, Detroit; J. D. Plekker, Grand Rapids; Joe D. Pree, Grand Rapids; Clifford Randolph, Detroit; H. Walter Reed, Detroit; George Ritter, Detroit; Thomas Sage, Detroit; Raymond J. Screen, Detroit; Alvin H. Seibert, Grosse Pointe; George Sewell, Detroit; V. E. Slahetka, Detroit; Eleanor Smith, Ann Arbor; B. W. Stockwell, Detroit; Homer H. Stryker, Kalamazoo; G. J. Stuart, Grand Rapids; Palmer E. Sutton, Royal Oak; Ivan B. Taylor, Detroit; Henry Turkey, Detroit; F. I. Van Wagner, Jackson; Roger V. Walker, Detroit; J. Edwin Watson, Detroit; Bernard Weston, Detroit; Frank C. Witter, Detroit; Hackley E. Woodford, Benton Harbor; W. R. Wreggit, Highland Park; D. R. Wright, Flint.

Thursday, June 9, 1949.—William M. Bell, Detroit; Ord C. Blackledge, Detroit; Harold A. Bjork, St. Joseph; Osborne A. Brines, Detroit; Donald Channler, Grand Rapids; Fillmore S. Curry, Detroit; Gerald W. Edmonds, Detroit; Harold F. Falls, Ann Arbor; Lynn A. Ferguson, Grand Rapids; C. P. Hodgkinson, Detroit; John F. Holt, Ann Arbor; Henry P. Kooistra, Grand Rapids; James R. Linton, Eloise; David H. Lynn, Detroit; Don Marshall, Kalamazoo; Evelyn W. Marshall,

(Continued on Page 1184)



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(Continued from Page 1182)

Kalamazoo; N. H. Moss, Detroit; James A. Olson, Detroit; Hermann Pinkus, Monroe; Earl C. Potter, Lansing; Geza Schinagel, Detroit.

Friday, June 10, 1949.—Arnold Albright, Battle Creek; Robert C. Bassett, Ann Arbor; Benjamin Juliar, Detroit; Charles S. Lueth, Detroit; Earl E. Parker, Lesle; Eugene Martin Savignac, Detroit; Sara D. Schweinsberg, Marquette; Martha R. Westerberg, Ann Arbor.

* * *

Stokes Says—"60 per cent of the diagnosis of syphilis depends on laboratory procedures; 40 per cent depends on routine painstaking physical examination."

At least attempt to get corroborative evidence of clinical syphilis before diagnosing and treating your patient who has a positive Kahn.—From Committee on Venereal Disease Control.

* * *

The Third Inter-American Congress of Radiology is scheduled for Santiago, Chile, November 11-17, 1949 at Hotel Crillon. For information and program, write James T. Case, M.D., Room 1421 55 E. Washington St., Chicago 2, Illinois.

* * *

The Pomeroy-MacFarland Co., which has operated a surgical appliance business in Detroit for forty years, made plans on October 1, 1949, to continue for business not as a corporation but through individual ownership by Frank C. Macfarland, former president of the Pomeroy Macfarland Company.

* * *

The National Gastroenterological Association will hold its 14th Scientific Session at the Somerset in Boston, Mass., October 24-26, 1949. For information and Program, write the Secretary at 1819 Broadway, N. Y. 23, N. Y.

* * *

Diabetes detection.—The appointment of Diabetes Detection Committees have been reported by the following county medical societies of Michigan: Bay, Berrien, Calhoun, Clinton, Gogebic, Huron, Kalamazoo, Kent, Manistee, Medical Society of Northern Michigan, Menominee, Midland, Ontonagon, Sanilac, St. Clair, and Wayne.

The MSMS Committee on Geriatrics recommends that all county medical societies appoint a Diabetes Detection Committee prior to the Diabetes Detection Drive scheduled for the autumn of 1949.

* * *

The 116th meeting of the American Association for the Advancement of Science will be held in New York, December 26-31, 1949, with the Pennsylvania Hotel as headquarters. For Program and information, write Raymond L. Taylor, 1515 Massachusetts Ave. N.W., Washington 6, D. C.

* * *

Medical motion pictures.—For copy of informative brochure "Reviews of Medical Motion Pictures" for list of films available through the Motion Picture Library

(Continued on Page 1186)

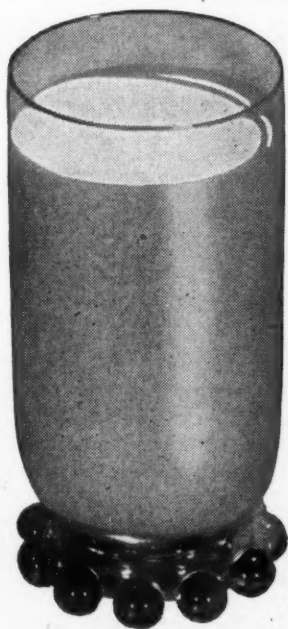
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(Continued from Page 1184)

of the American Medical Association, members of the Michigan State Medical Society may write Ralph P. Creer, Secretary, Committee on Medical Motion Pictures, AMA, 535 N. Dearborn, Chicago 10.

* * *

Hospital Construction Progress.—The following progress report on Michigan hospital construction under the federal program, as of July 1, 1949, is brought to you through the courtesy of the state office of Hospital Survey and Construction. Hospital projects now under construction with federal funds allotted to Michigan for the period July 1, 1947 to June 30, 1948:

Name	Location	Estimated Cost	Estimated Federal Share
Marshall B. Lloyd Clinic	Menominee	\$ 785,912.00	\$ 261,971.00
Rogers City Hospital	Rogers City	437,061.00	145,687.00
Schoolcraft County Mem. Hospital	Manistique	392,121.00	130,707.00
St. Joseph Hospital	St. Joseph	1,836,300.00	612,100.00
Mercy Hospital	Benton Harbor	1,216,260.00	405,420.00
Holland City Hospital	Holland	318,526.17	92,439.00
St. Luke's Hospital	Saginaw	2,107,278.00	521,672.00
St. Luke's Hospital (carried over to next period)			180,754.00
		\$9,801,862.17	\$2,169,996.00

Hospital projects now under construction with federal funds allotted to Michigan for the period July 1, 1948 to June 30, 1949:

Name	Location	Estimated Cost	Estimated Federal Share
Women's Hospital	Flint	\$2,741,403.00	\$ 902,801.00
(Approved for 1950 construction)			
Sturgis Memorial Hospital	Sturgis	500,700.00	166,900.00
Pennock Hospital	Hastings	421,500.00	140,500.00
Paul Oliver Hospital	Frankfort	239,160.00	79,720.00
Three Rivers Hospital	Three Rivers	460,000.00	153,333.00
St. Luke's Hospital	Saginaw	(carry over)	180,754.00
St. Joseph Hospital	Hancock	2,500,000.00	300,669.00
St. Joseph Hospital (carry over to next period)			532,664.00
		\$9,720,041.00	\$2,174,668.00

Hospital projects approved for 1951 construction with federal funds allotted for the period of July 1, 1949 to June 30, 1950:

Name	Location	Estimated Cost	Estimated Federal Share
Dickinson County Memorial Hospital	Iron Mountain	\$ 825,000.00	\$ 275,000.00
St. Joseph Hospital	Hancock	(carry over)	532,664.00
United Memorial Hospital	Greenville	874,230.00	291,410.00
James Decker Munson Hospital	Traverse City	819,000.00	273,000.00
Oakwood Hospital	Dearborn	4,326,900.00	200,000.00
Oakwood Hospital (carry over to next period)			1,442,300.00
James Sheldon Memorial Hospital	Albion	345,000.00	115,000.00
Kalamazoo State Hospital	Kalamazoo	900,000.00	300,000.00
Marv Free Bed Guild	Grand Rapids	227,000.00	75,667.00
Oaklawn Hospital	Marshall	480,000.00	25,000.00
Oaklawn Hospital (carry over to next period)			135,000.00
South Haven Hospital	South Haven	156,000.00	52,000.00
Tuberculosis Sanatorium (State)	Hancock	1,050,000.00	350,000.00
Lee Memorial Hospital	Dowagiac	1,020,000.00	25,000.00
Lee Memorial Hospital (carry over to next period)			315,000.00
Reserve			49,611.00
		\$13,523,130.00	\$2,546,352.00

(Continued on Page 1188)

NEWS MEDICAL

L. Fernald Foster, M.D., Bay City, addressed the national convention of the Medical Fraternity, Alpha Kappa Kappa, in Ann Arbor on September 3. His subject was "New Trends in Medical Economics."

* * *

C. E. Umphrey, M.D., Detroit, spoke to the Detroit Society of Engineers on September 15. His subject was "The Promotion of Medicine's Legal and Ethical Responsibilities."

* * *

The Michigan Nursing Center Association announces a Laymen's Conference on Nursing at Michigan State College on October 4. This conference is arranged to bring hospital board and committee members and school of nursing committees together with laymen in public health nursing to take a broad view of nursing and "what can be done about it."

All members of the Michigan State Medical Society are cordially invited to the October 4 meeting in East Lansing. For program, write the Association, 750 E. Main Street, Lansing 12.

* * *

The Association of American Physicians and Surgeons will hold its sixth Annual Delegates and Members Meeting at the Book-Cadillac Hotel, Detroit, on October 28-29. Senator Herbert R. O'Connor, M.D., Maryland, will discuss legislation encouraging voluntary insurance plans;

R. B. Robins, M.D., Arkansas, will speak on "The Doctor's Responsibility as a Citizen." For complete program and further information, write to the Secretary, 360 N. Michigan Ave., Chicago 1.

* * *

Purdue University offers a short course in basic radiographic procedure for technicians attached to the laboratories of doctors of medicine and hospitals, October 3-7, 1949. The course is offered in co-operation with the General Electric X-Ray Corporation. For detailed information on classes and accommodations, write Co-ordinator of Adult Education, Technical Extension Division, Purdue, Lafayette, Indiana.

* * *

A postgraduate course in Chest Diseases has been arranged by the Council on Postgraduate Medical Education and the New York State Chapter of the American College of Chest Physicians in New York City, which will be held November 14 through 18. There will be five full days of instruction, both forenoon and afternoon. All sessions will be held in Hotel New Yorker. Veterans who are applying for education benefits under statutes will present certificates of eligibility at the time of registration and will receive a refund in the amount approved by the Veterans Administration.

Those interested should apply to the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

SPECIFIC DESENSITIZATION is the aim in Ragweed Pollinosis..

The antihistaminic drugs "do not replace the more lasting benefit obtainable by successful specific . . . desensitization."

Feinberg, S. M.: Postgrad. Med. 3: 92 (1948).

"Apparently, desensitization treatment is still the method of choice, and the antihistaminic drugs cannot be considered as substitutes."

Levin, L.; Kelly, J. F., and Schwartz, E.: New York State J. Med. 48: 1474 (1948).

The antihistaminic drugs "are valuable additions to our armamentarium, but do not . . . supplant the specific desensitizing injections."

Brown, G. T.: M. Ann. District of Columbia 16:675 (1947).

Pollen desensitization "still remains the treatment of choice in hay fever."

Rosen, F. L.: J. M. Soc. New Jersey 45: 390 (1948).

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(Continued from Page 1186)

The Michigan Rheumatic Fever Control Program (thirty centers throughout the state) acknowledges with deep appreciation two recent contributions toward its budget for the year ending June 30, 1950. The Michigan Heart Association has contributed the sum of \$32,515.72 and the Michigan Society for Crippled Children and Adults has continued its annual grant, this year in the sum of \$6,000. The work of the unique Rheumatic Fever Control Program will go forward, thanks to the generous financial help of these two co-operating agencies.

* * *

Frederick C. Lendrum, M.D., Chicago, has been promoted to the rank of associate professor in medicine at the University of Illinois College of Medicine, it was announced by Dr. John B. Youmans, dean of the college.

Dr. Lendrum formerly held the position of assistant professor. He received the bachelor of arts degree from Ohio Wesleyan University, the doctor of medicine degree from the University of Michigan Medical School, and the doctor of philosophy degree from Mayo Foundation at the University of Minnesota.

Prior to coming to the University of Illinois, Dr. Lendrum did research work at Mayo Foundation, the Wisconsin Alumni Research Foundation, and at the Medical Research Institute in Detroit.

Dr. Lendrum is a member of Phi Beta Kappa, scholastic honorary fraternity; Alpha Omega Alpha, honorary medical fraternity; and Sigma Xi, research organization.

* * *

Senator and Mrs. Arthur H. Vandenburg have enrolled in the Michigan Blue Cross-Blue Shield. They have the hospital-medical-surgical plan through the Michigan legislative group. Our members will be interested in knowing that our Senior Senator is wholeheartedly supporting our voluntary, non-profit, medical plans.

* * *

Medical Authors

H. Paul Sugar, M.D., of Detroit, published a paper, "Surgical Treatment of Pterygium" in *Amer. Jour. of Ophthalmology*, July, 1949.

Joseph L. Ponka, M.D., and Conrad R. Lam, M.D., of Detroit, published a paper, "Effect of Application of Several Antibacterial Substances on Healing of Wounds," in the *Archives of Surgery*, July, 1949.

Myles J. Gullickson, M.D., James H. McRae, M.D., and Darrell A. Campbell, M.D., of Eloise published a paper, "Vagovagal Reflexes; Electrocardiographic Changes During Vagotomy." In *S. G. and O.*, August, 1949.

Alfred D. LaFerte, M.D., Detroit, published a paper on "Fractures" in August, 1949, *Industrial Medicine and Surgery*.

* * *

James R. McVay, M.D., Kansas City, was re-elected chairman of the AMA Council on Medical Service, and Elmer Hess, M.D., Erie, Pa., was re-elected vice chairman at a one-day meeting of the Council in Chicago, July 16.

(Continued on Page 1190)

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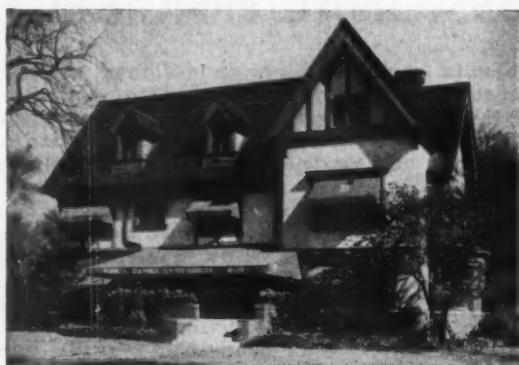
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(Continued from Page 1188)

The executive committee for the coming year will be made up of Drs. McVay, Hess, and J. D. McCarthy, Omaha, Nebraska.

The Council renewed the Seal of Acceptance for the following four voluntary prepayment medical care plans:

Louisiana Physicians Service, Inc.; New Hampshire-Vermont Physician Service; Mutual Medical Insurance, Inc. (Indiana), and the Missouri Medical Service.

Three additional plans are to be examined further to determine their eligibility for renewal of the seal. Eligibility is determined every two years.

* * *

Consultants in Far East.—A team of consultants composed of Col. Warner F. Bowers of the Surgeon General's office, Russell H. DeJong, M.D., of the Neuropsychiatry department of University of Michigan, with two others left Washington, D. C., on a 35-day trip to the Far East Command. They visited Tripler Army General Hospital en route, and expect to visit all Army General Hospitals in Japan, the Philippines, Okinawa and Guam.

As now organized, the Civilian Consultants Program sends teams of eminent civilian medical and surgical specialists each month to Army and Navy hospitals in Europe, the Far East, and the Panama Canal Zone. The mission of the program is to give Medical Department personnel overseas, especially the younger physicians, the benefit of graduate medical teaching, as well as to have the consultants available for consultation and care of patients.

* * *

State Board Examinations.—The regular annual meeting of the Michigan State Board of Registration in Medicine will be held on Tuesday, October 11, 1949, in Parlor A, Olds Hotel, Lansing, Michigan. The examination will be given on Wednesday, Thursday, and Friday, October 12, 13, and 14, 1949, in the Senate Chamber of the State Capitol building, Lansing, Michigan.

* * *

Diabetes Detection Week.—It is the aim of the joint committee from the State Society and the Michigan Diabetes Association to stimulate in all physicians a continuing year-round awareness of diabetes and a persistent search for this disease in all of their patients. To this end the following suggestions are offered:

1. Routine urinalysis with testing for sugar with any one of the simple tests should be done on all patients.
2. Whenever possible, the relatives of diabetics should be tested in the same way. These and obese people are especially prone to develop diabetes and deserve closer attention than others.
3. Urinary sugar tests should be made on all pre-operative and post-partum patients.
4. A blood sugar estimation should be made on all those whose urine is positive.

If every doctor would follow these instructions, the multitude of unknown and unsuspecting diabetics now uncontrolled would be helped by adequate treatment with prevention of many serious complications.

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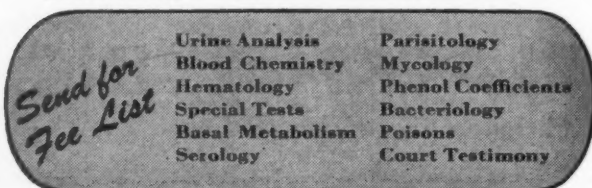
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Communications

To to Editor:

The annual meeting of the American Board of Obstetrics and Gynecology was held in Chicago, Illinois, from May 8 to 14, 1949, at which time 236 candidates were certified.

New Bulletins, incorporating changes made at the recent meeting, are now available for distribution upon application and give details of all new regulations.

The next scheduled examination (Part I), written examination and review of case histories, for all candidates will be held in various cities of the United States and Canada on Friday, February 3, 1950. Application may be made until November 5, 1949. Application forms and Bulletins are sent upon request made to American Board of Obstetrics and Gynecology, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

Dear Doctor Haughey:

The American College of Radiology views with alarm and dismay all proposed programs relating to the distribution of medical services which place the diagnostic aspects of medicine in a category apart from the general practice of medicine.

.....not a few prominent members of the medical profession have recently promulgated plans emphasizing a difference in what they have termed "the practice of the diagnostic specialties" and the practice of medicine. The American College of Radiology is most disturbed by these medical spokesmen in that they have apparently seen in the socialization of diagnostic medicine relief from demands for socialization of all medicine. Theirs is a tragic error. The medical profession and most of the rest of the nation has come to understand that medicine cannot and will not be socialized in a vacuum. The socialization of any group, or segment of a group, is but a precursor of things to come. Medicine must not weaken its stand for freedom by partial appeasement and thus fall victim to piecemeal socialization. Abraham Lincoln observed that, "No nation can long endure half slave and half free." It should be even more obvious that no profession can permanently maintain this imbalance.

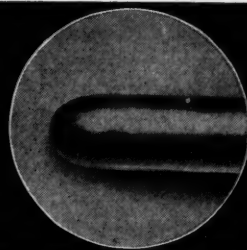
It would be appreciated if you would bring this statement on the part of the American College of Radiology to the attention of all members of your group.

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DERMATOLOGY—Formal Course, two weeks, starting October 24. Informal Clinical Course every two weeks.
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Acknowledgment of all books received will be made in this column, and this will be deemed by us as a full compensation of those sending them. A selection will be made for review, as expedient.

HELP YOURSELF TO BETTER SIGHT. By Margaret Darst Corbett. New York: Prentice-Hall, Inc., 1949. Price \$2.50.

This book is an exposition of the so-called Bates Method of Eye Education. It consists of a long series of exercises and tricks to stimulate the quicker action of the eyes. The author conducts a school in Los Angeles teaching the method of better vision. We have read it carefully and can find no solution to the problem of useful vision for all the classes of patients who must undergo a long and tedious process to avoid the use of glasses. It must be expensive, and unending.

Tricks of quick reading are described, and schemes for correcting cross eyes. The theory is that the extrinsic rectus muscles lengthen the eye and the obliques flatten it, thus accounting for accommodation for near or far. "If you, little by little, extract from each day increasing visual relaxation, you will gradually build for yourself permanent visual skill for all future needs." "Relax and let your eyes adjust themselves to the distances required by your daily life." It is a novel exposition of plan for continuous training of patients who want to see, but who do not want glasses. We are skeptical.

FEMALE SEX ENDOCRINOLOGY—CONCISE THERAPY. By Charles H. Birnberg, M.D., Associate Obstetrician, Chief of Female Sex Endocrinology, and Endocrine Laboratory Jewish Hospital of Brooklyn. 30 illustrations including 3 in color. Philadelphia: J. B. Lippincott Co., 1949. Price \$4.00.

The author has given a series of lectures in his post-graduate course on sex endocrinology, and this book is an outgrowth of the lectures bearing on the female endocrine disturbances. During the reproductive period, woman is subjected to many endocrine assaults, to which man is not subjected. These few chapters give a comprehensive classification of the involved conditions.

SHEARER'S MANUAL OF HUMAN DISSECTION. Edited by Charles E. Tobin, Ph.D., Associate Professor of Anatomy, The University of Rochester School of Medicine and Dentistry. Second Edition. Philadelphia and Toronto: The Blakiston Company, 1949. Price \$4.50.

Human body dissection needs a carefully arranged procedure, and here is a book with sufficient detail of description, but with accompanying outlines. The care of instruments is stressed, for without proper technique the value to be gained from the study is lost. A very handy and complete manual.

MEDICINE THROUGHOUT ANTIQUITY. By Benjamin Lee Gordon, M.D., Member Association of the History of Medicine, and American Academy of Ophthalmology and Otolaryngology. Certified American Board of Ophthalmology, etc.; Attending Ophthalmologist to Shore Memorial Hospital, Somers Point, New Jersey, and to Atlantic County Hospital for Tuberculous Diseases, and Atlantic County Hospital for Mental Diseases, Northfield, N. J. Author "The Romance of Medicine." Foreword by Dr. Max Neuburger. 157 illustrations. Philadelphia: F. A. Davis Company, 1949. Price \$6.00.

The author has departed from the ordinary history of medicine. He has gone back to the beginnings, showing the development of medical thought and experience from the beginning of life and long before recorded times. He quotes the ancient doctors and ancient records, and has

(Continued on Page 1196)



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(Continued from Page 1194)

delved largely into the fields of archeology, anthropology and paleopathology. He goes way beyond the realms of written history. The book is intensely interesting and full of facts and conjectures that lead far into the realm of research and study.

GERIATRIC MEDICINE—The Care of the Aging and the Aged. Edited by Edward J. Stieglitz, M.S., M.D., F.A.C.P., Attending Internist, Suburban Hospital, Bethesda, Maryland; Doctor's Hospital, Washington, D. C. New, 2nd edition. 773 pages, with 180 figures. Philadelphia and London: W. B. Saunders Company, 1949. Price \$12.00.

In the five years since the publication of the first edition of this book, geriatric medicine has grown beyond all dreams, and the specialty and the book have proven a great success. Aged people are present in ever-increasing numbers and proportions due to our having increased the span of life. Older people have especial problems of health and life, and that makes a wonderful field for the doctor who is willing to give it his time. This book is a great help and source of instruction and stipulation. It is a text every doctor needs on his shelf.

PRESENT CONCEPTS OF REHABILITATION IN TUBERCULOSIS. A Review of the Literature, 1938-1947. By Norvin C. Kiefer, M.D., M.P.H., Senior Surgeon, United States Public Health Service; Assistant to the Chief Tuberculosis Control Division, United States Public Health Service, Federal Security Agency. New York: National Tuberculosis Association, 1948.

Nearly 1,000 articles on tuberculosis and its control were studied. This book is the result and presents in authentic form about all that is known from the literature of the past ten years about rehabilitation. There are chapters on agencies dealing with rehabilitation, types of programs, personnel requirements for rehabilitation staff and future programs. This is a well-written and very useful volume.

THE COMPLETE PEDIATRICIAN—PRACTICAL, DIAGNOSTIC, THERAPEUTIC AND PREVENTIVE PEDIATRICS. Sixth Edition for the use of Medical Students, Interns, General Practitioners and Pediatricians. By Wilburt C. Davison, M.A.,

D.Sc., LL.D., M.D. Professor of Pediatrics, Duke University School of Medicine, and Pediatrician, Duke Hospital. Formerly, Acting Head of Department of Pediatrics, The Johns Hopkins University School of Medicine, Acting Pediatrician in Charge, The Johns Hopkins Hospital. Member, American Board of Pediatrics; Fellow, American Academy of Pediatrics and American College of Physicians; Member, American Pediatric Society and Division of Medical Sciences, National Research Council, Durham, N. C.; Seaman Printery for Duke University Press, 1949. Price \$4.50.

This edition of this valuable book has been considerably enlarged and reorganized. It is a never-ending mystery to this reviewer as to how one can pack the amount of information contained in this volume into such small compass. As a trial, we checked ten recent papers which contained some new concept, against this edition, and in each case found the newer information was included. Used as it is intended to be used i.e., as a quick reference to refresh the memory, this book is invaluable and should be on the shelves of every practicing physician. H.F.B.

THE USES OF PENICILLIN AND STREPTOMYCIN. By Chester Scott Keefer, M.D., Wade Professor of Medicine, Boston University School of Medicine; Director of Evans Memorial and Physician-in-Chief of the Massachusetts Memorial Hospitals. Porter Lectures, Series 15. Lawrence, Kansas: University of Kansas Press, 1949. Price \$2.00.

This is a series of three lectures delivered at the University of Kansas in the memorial series established in honor of J. F. Porter, M.D., who went to Kansas after his graduation from Rush Medical College in 1881. This is a very interesting group of lectures on the uses of these two antibiotics. It is an authoritative summary of the known facts about the drugs in medical and surgical practice.

SKIN PROBLEMS FACING YOUNG MEN AND WOMEN. By Herbert Lawrence, M.D., Diplomate, American Board of Dermatology. San Francisco: Timely Publications, 1949. Price, \$1.50.

Most young men and women, or boys and girls between the ages of thirteen and nineteen, have the skin disorder known as acne. The treatment is well established, and here is a book published for the express purpose of enlightening them on the care of their own skin in order

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ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY of the American Medical Association for 1948; With the Comments that have Appeared in the Journal. Chicago: The American Medical Association, 1949.

This book brings together in one small volume all the reports that have appeared throughout the year in THE JOURNAL AMA. It is a convenient reference.

TONICS AND SEDATIVES. Selected from his favorites by Morris Fishbein, M.D., Editor of the Journal of the American Medical Association; with 51 original drawings by Page Cary. Philadelphia: J. B. Lippincott Company, 1949. Price \$2.00.

This is a pocket size book of medical humor, Dr. Fishbein's best as presented over the years in *The Journal of the AMA*. A good book for an hour's relaxation.

OUTWITTING YOUR YEARS. By Clarence William Lieb, M.A., M.D., New York: Prentice Hall, Inc. 1949. Price \$2.75.

Dr. Lieb practiced medicine, Geriatrics, for many years, then retired to live his life. He tells in this book much of his philosophy of life. He asks many questions and proceeds to answer them: When to retire? Is youth superior to age? He tells that cancer is not part of the aging process. Blood pressure gets attention, favorably. The book is delightful reading, gives us much hope of the later years, and the last sentence gives a final glimpse into the mind of the philosopher, "The supreme alchemy in the process of outwitting your years is belief in God."

SEPTEMBER, 1949

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Chairman (Otolaryng.)
J. C. Gerneroy, M.D.....Detroit
Co-Chairman (Ophth.)
R. W. Teed, M.D.....Ann Arbor
Secretary (Otolaryng.)
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DELEGATES TO A. M. A.



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Chairman
Wm. Bromme, M.D.....Detroit
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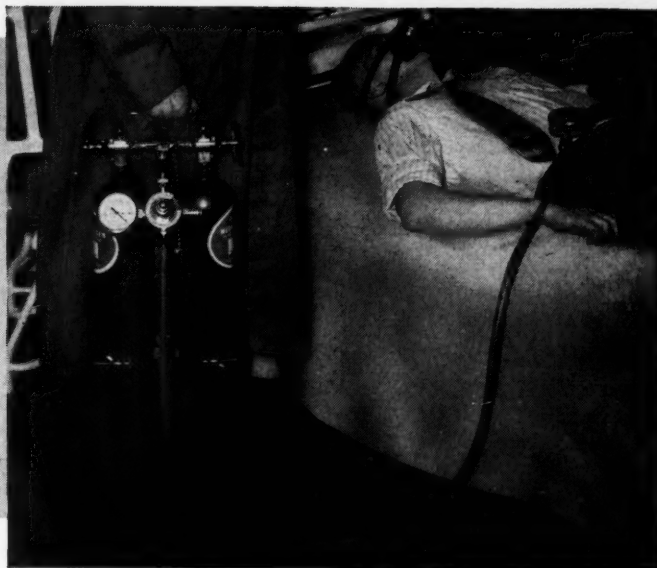
Public Health and Preventive Medicine
O. D. Stryker, M.D.....Mt. Clemens
Chairman
O. K. Engelke, M.D.....Ann Arbor
Secretary

Nervous and Mental Diseases
P. C. Robertson, M.D.....Ionia
Chairman
R. A. Morter, M.D.....Kalamazoo
Secretary

Alternates

R. A. Johnson, M.D., Detroit.....1950
R. H. Denham, M.D., Grand Rapids.....1950
C. I. Owen, M.D., Detroit.....1950
H. H. Cummings, M.D., Ann Arbor.....1951
E. C. Texter, M.D., Detroit.....1951

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Branches of the Michigan State Medical Society

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OCTOBER, 1949

Say you saw it in the Journal of the Michigan State Medical Society

1207

You and Your Business

HIGHLIGHTS OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

Meeting of August 17, 1949

- Monthly financial reports, including detailed breakdown of Public Education Account and of the Public Education Reserve Account were presented, studied, discussed, and approved. Bills payable for the current month were presented and approved.
- More space for Executive Offices. Negotiations for the purchase of the small building in Lansing, under consideration for several months, are reported at a standstill; the Lansing Planning Commission has rezoned the property to permit its use by the Michigan State Medical Society, but the owner suddenly has changed his mind about the price. The Executive Committee of The Council felt that if this building cannot be purchased within a reasonable time for the sum of money originally agreed upon, the Society will decide upon another site available to MSMS for a permanent home.
- Blood Bank Committee. Several recommendations from the President of the Michigan Pathological Society for the future administration of this Committee were presented to the Executive Committee of The Council.
- Committee reports were accepted from the Venereal Disease Control Committee, the Geriatrics Committee, and the Committee on Study of Health Plans.
- State Health Commissioner A. E. Heustis, M.D. reported on (a) aid in financing the Cancer Control Committee's work; (b) completion of the reorganization of the Michigan Health Department together with the new arrangement for financing of local health departments; and (c) the present status of poliomyelitis in Michigan.
- Public Relations Counsel's Progress report included a résumé of the work done in connection with Truman's Reorganization Plan No. 1 (defeated by the U. S. Senate on August 16); on the recent Convention of the National Medical Association in Detroit; on numerous requests for prints of the new MSMS motion picture "To Your Health"; on the probable syndication of the MSMS radio program "Tell Me, Doctor"; on the excellent work of the Woman's Auxiliary in the CAP Program; on the interesting program of the Michigan Rural Health Conference scheduled for Grand Rapids, October 28-29; on the Michigan Health Survey being made by Michigan State College for MSMS and for the Michigan Foundation for Medical and Health Education, Inc.; and on the MSMS Speakers' Conference scheduled for Grand Rapids on September 22.
- The monthly reports of the President, the President Elect, the Secretary, the Editor, and the General Counsel were approved.
- A Sub-Committee of the Child Welfare Committee, to aid in the program of hearing conservation was appointed with the following personnel: C. F. Brunk, M.D., Detroit, Chairman, F. L. Doran, M.D., Grand Rapids, R. H. Criswell, M.D., Bay City, O. B. McGillicuddy, M.D., Lansing, and R. C. Pochert, M.D., Owosso.
- A vote of sincere thanks was extended to the Michigan Heart Association for its contribution of \$32,515.72 and to the Michigan Society for Crippled Children and Adults, Inc. for its contribution of \$6,000—for continuation of the Michigan Rheumatic Fever Control Program.
- The second Heart and Rheumatic Fever Day was authorized for Saturday, March 11, 1950, immediately following the three-day Michigan Postgraduate Clinical Institute, Book-Cadillac Hotel, Detroit. The monthly report of the Director of the Rheumatic Fever Control Program (Leon DeVel, M.D.) was approved.
- Assignments to the MSMS House of Friendship, at the Annual Session in Grand Rapids, September, 1949, were presented and approved.
- Chairmen of Rheumatic Fever Control Centers: The Executive Committee of The Council re-

(Continued on Page 1210)



if she is one of your patients...

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OCTOBER, 1949

Say you saw it in the *Journal of the Michigan State Medical Society*

1209

HIGHLIGHTS OF THE EXECUTIVE COMMITTEE OF THE COUNCIL

(Continued from Page 1208)

requested that county medical societies, in whose areas Rheumatic Fever Control Centers exist, be invited to appoint Chairman of their Centers for the year 1949-50.

- A. Hazen Price, M.D., Detroit, was reappointed as MSMS representative to the State Advisory Committee for Practical Nurse Education (a Committee of the Department of Public Instruction).

AMA ASSESSMENT

Michigan is seventh among the fifty-three constituent societies of the American Medical Association in the payment of the AMA assessment. Eighty-two per cent of Michigan's membership have co-operated and given wholehearted support to their parent organization.

To the other 18 per cent, The MSMS Council recommends that they co-operate to the best of their ability, both through action and financially, with the National Education Campaign of the AMA. Each member should feel it an honor and a privilege to aid the AMA not only by payment of the small AMA assessment but by vigorously entering the medical profession's program of active and direct resistance against attempts to throw the practice of medicine into politics.

THE ADMINISTRATION'S GRANDIOSE SCHEME

The *Baltimore Sun* has published a series of articles on "What the American Public Would Pay, And What It Would Get If Congress Approves President Truman's Social Welfare Proposals." From the Sunday issue of April 17, 1949, we take the following figures:

Fiscal Year	Low Cost Estimate	High Cost Estimate
1950	\$ 6,225,000,000	\$ 6,725,000,000
1960	16,000,000,000	22,000,000,000
1970	20,600,000,000	27,570,000,000
1980	23,110,000,000	32,400,000,000
1990	27,260,000,000	37,000,000,000
2000	29,300,000,000	39,900,000,000

In commenting on this question, Mr. Rodney Crowther of the Washington Bureau of the *Baltimore Sun* says,

"And at the end of fifty years, the bill every twelve months will be running between \$30 and \$40 billion.

"That's almost the entire national budget for 1950. For the Nation's workers it would mean 15 cents out

of every dollar of payroll for insurance against old age sickness and unemployment.

"Looking ahead fifty years, the President's program—which Arthur J. Altmeyer, Social Security Commissioner, this week called 'a pretty big package'—probably would be costing one and one quarter trillion dollars every thirty years."

EMPLOYEE BENEFIT PLANS

The Research Council for Economic Security has just completed a survey in six metropolitan areas of the Midwest covering employee benefit plans. The survey covered 34.4 per cent of the firms contacted in the Detroit area reported, 525 in number, representing 478,264 employees or 41 per cent of employed persons in the area. Of the employees covered by the survey, 80.3 per cent have life insurance; 15.5 per cent have pension and retirement; 68.3 per cent have prepaid hospitalization; 62.8 per cent have prepaid surgical benefits; 3.9 per cent have prepaid medical care; 69.7 per cent have organized cash sickness benefit; 21.4 per cent have paid sick leave and 75.4 per cent have organized cash sickness or prepaid sick leave.

Prepaid hospitalization covers 63.6 per cent through Blue Cross. Prepaid surgical benefits are supplied through Blue Cross-Blue Shield in 69.9 per cent of persons surveyed in Detroit. The report says:

"Detroit.—This area shows a very high coverage under prepaid surgical benefit and organized cash sickness plans, high for life insurance, but low for pension retirement systems. In the field of carriers, the Blue Shield plan is dominant in prepaid surgical benefit plans. The portion of the cost of existing programs borne by the employer is generally less than in the other five areas. The active promotion of prepaid surgical benefits by the medical profession in co-operation with Michigan Medical Service accounts for the remarkable development of that program. Excellent leadership and financial management also played a part. Since the employees of the three large automobile manufacturing corporations bulk so large in employment of the Detroit area, the policies and developments in those firms will influence greatly the figures on employee benefit plans."

POSTGRADUATE COURSE ON URINARY TRACT DISORDERS

On November 17, 18, and 19, 1949, the Frank E. Bunts Institute and the Cleveland Clinic will present a continuation course for physicians on "Medical and Surgical Disorders of the Urinary Tract." Dr. Herman L. Kretschmer of Chicago will give the evening address, November 17, on "Clinical Significance of Hematuria." The other out-of-town guest speaker will be Dr. Louis

(Continued on Page 1252)

HABIT TIME

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Aqueous Suspension of Mineral Oil Plain

Active Ingredient: Mineral Oil 65%

DIRECTIONS: Adults, one tablespoonful. Children over six years old, one teaspoonful. May be thinned with water, milk or fruit juice if desired.

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Michigan Medical Service

MICHIGAN MEDICAL SERVICE LIBERALIZES MEDICAL-SURGICAL CONTRACTS

Dr. R. L. Novy, president of Michigan Medical Service, has announced that the Board of Directors on July 7, 1949, liberalized the *Medical-Surgical* contracts as follows:

Effective September 1, 1949, the number of days of service for *hospitalized* cases under the *Medical-Surgical* certificates (Form GMS-3-49) will be increased from thirty (30) to one hundred and twenty (120) days per certificate year, except that tuberculosis, nervous and mental cases will be limited to thirty (30) days of care.

Michigan Medical Service will pay for *Medical* services in hospitals as follows:

(a) 1st and 2nd day	@	\$5.00	=	\$ 10.00
3rd to 120th day	@	3.00	=	354.00
				\$364.00
(b) Tuberculosis, nervous and mental cases:				
1st and 2nd day	@	\$5.00	=	\$ 10.00
3rd to 30th day	@	3.00	=	84.00
				\$ 94.00

A copy of the Liberalization Rider, Form 50-76, which is provided to each contract holder appears at the end of this article.

Every doctor in the state received a copy for his files.

There were at July 31, 1949, 65,540 persons covered by the Medical-Surgical contract. On July 31, 1948, there were 29,446 persons with medical-surgical protection. Many employer groups have changed to the Medical-Surgical contract during the past months and it is anticipated that this trend will continue as other contract holders realize the additional protection provided. On July 31, the total number of persons covered by Michigan Medical Service contracts was 1,440,654.

BLUE CROSS COMMUNITY ENROLLMENT

Community enrollment activities have done much to create a better understanding of Blue Cross among civic and business leaders, as well as other local residents of the communities in which campaigns have been completed so far.

For example, during preliminary contacts in a community several opportunities arise to show exactly how the doctors in hospitals operate Blue Cross as a non-profit public service and that it is their voluntary answer to compulsory health insurance. In other words, to obtain news coverage, a location for campaign headquarters and, also, permission to display banners, etc., local newspaper editors, radio station managers, city officials and representatives of various clubs want to be

(Continued on Page 1214)

MEDICAL SERVICE RIDER

**THIS IS IMPORTANT TO YOU—PLEASE READ THIS NOTICE CAREFULLY
ATTACH THIS LIBERALIZATION NOTICE TO YOUR
MEDICAL-SURGICAL CERTIFICATE**

Effective September 1, 1949

In accordance with general condition No. 19 of the certificate, until further notice, Michigan Medical Service will provide additional service or benefits for medical services under paragraph 2(b) of the certificate, as follows: for medical services (not related to surgical or maternity service) other than that rendered concurrently with post-operative services, and except medical services for tuberculosis or nervous or mental conditions, limited to a total of 120 days of such service between the effective date of the certificate and the first anniversary thereof or during any succeeding 12-month period, rendered by the doctor of medicine in charge of the case.

Medical services rendered by the doctor in charge of the case (not related to surgical or maternity service) other than that rendered concurrently with post-operative services, for tuberculosis or nervous or mental conditions, shall continue to be limited to a total of 30 days of such service between the effective date of the certificate and the first anniversary thereof or during any succeeding 12-month period.

Determination of Michigan Medical Service as to whether or not services are medical, surgical or related, or are for tuberculosis or nervous or mental conditions shall be conclusive.

All other terms and limitations of the certificate shall remain in full force and effect.

MICHIGAN MEDICAL SERVICE
Jay C. Ketchum
Executive Vice President

Form 50-76

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BLUE CROSS COMMUNITY ENROLLMENT

(Continued from Page 1212)

shown detailed facts about Blue Cross and why it is the best plan of health protection available to their local residents.

Then together with the help of such civic and business leaders, the general public learns about Blue Cross values through the active assistance of doctors, hospitals and their auxiliaries who publicize the campaign by distributing Blue Cross literature, making announcements at local club meetings and in various ways urging their friends to obtain Blue Cross protection.

At the request of some of our friends we are installing the latest Sanborn Electrocardiograph Machine.

The results will be interpreted by a well known heart specialist.

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Completed	35	42.17	1,726,443	32.85
Scheduled	9	10.84	428,362	8.15
Not Scheduled	16	19.28	2,866,272	54.53
*No Par Hospital	23	27.71	235,029	4.47
	83	100.00	5,256,106	100.00

*The "No Par Hospital" shows the number of counties in which we do not have participating hospitals and, therefore, unable to schedule campaigns, according to the Insurance Commissioner.

Results of campaigns so far shows that our activities, plus splendid assistance by district managers, has obtained a substantial increase in the number of enrolled groups. Likewise, it has helped materially in adding medical surgical plans to existing groups.

The following table shows the number of counties in which campaigns have been completed or scheduled and the population of such counties.

Campaigns in Wayne, Macomb, Genesee and Oakland Counties are not proposed at this time because the \$7.00 Hospital room allowance under the Michigan Hospital Service contract is far below the average room charge in these counties. However, a revision of this feature of the Michigan Hospital Service contract is under discussion.

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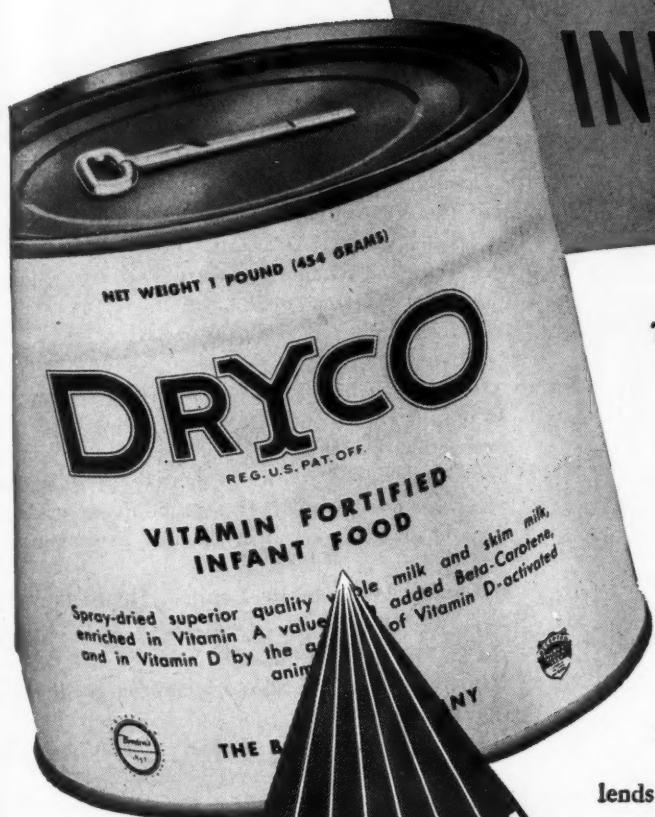
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The incidence of mild protein deficiencies in children, predisposing toward infections and edema, is reported^{1,2} much greater than generally realized. Infant and adolescent requirements—not only for tissue repair and maintenance, but also for growth—are much higher than in adulthood.³ To insure adequate protein intake in infancy, DRYCO—Borden's high-protein infant food—is ideally suited as a basis for formula building. It furnishes *all the essential amino acids*. Its low fat content minimizes gastro-intestinal upsets due to fat intolerance, while its intermediate carbohydrate content lends itself for prescription with or without added carbohydrate. Quickly soluble in cold or warm water, DRYCO contains adequate vitamins A, B₁, B₂ and D, plus essential milk minerals.

- References: 1. Dodd, K. and Minot, A. S.: *J. Pediat.*, 8:442, 1936.
2. Dodd, K. and Minot, A. S.: *J. Pediat.*, 8:452, 1936.
3. Sahyun, M.: *Am. J. Dig. Dis.*, 13:59, 1946.

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DRYCO is made from spray-dried, pasteurized, superior quality whole milk and skim milk. Provides 2500 U.S.P. units vitamin A and 400 U.S.P. units vitamin D per reconstituted quart. Supplies 31½ calories per tablespoon. Available at all drug stores in 1 and 2½ lb. cans.



*The "Custom Formula"
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PR In Practice

"It's No Bargain" Added to List of Available Pamphlets

September saw the publication of a pamphlet written by and for the women of Michigan—and the nation. "It's No Bargain" is an attractively illustrated and well-written eight-page booklet dedicated to the premise that socialized medicine is no bargain at any price.

Copy for this newest MSMS publication was prepared by Mary Sheets, formerly Public Relations Director for the National Broadcasting Company in Washington, D. C. An ex-newspaper woman with the *Lansing Journal* and the *Cincinnati Post*, Mrs. Sheets also served as special assignment writer for NBC during the war. At present she resides in Lansing where she is doing free lance writing for several national magazines.

Frank Williams, eminent cartoonist for the *Detroit Free Press*, is responsible for the excellent cartoons which decorate the pamphlet pages.

Copies of "It's No Bargain" may be obtained by writing the MSMS Public Relations Office, 2114 Olds Tower, Lansing 8, Michigan.

Georgia Inspects MSMS Public Relations Program

Mr. E. L. Bridges, Atlanta, newly appointed Public Relations Director for the Medical Association of Georgia, spent a day recently inspecting the various activities of the Michigan State Medical Society.

Georgia's interest in the Michigan plan is indicative of the response our extensive public relations program is receiving throughout the country. Mr. Bridges was referred to Michigan by the AMA and during his brief stay he stated he picked up many pointers that will be of value in establishing a P.R. program in the Southern state society. He showed particular interest in the motion picture and radio program, and was particularly impressed with the C.A.P. Program.

Doctor, Doctor—How Did Your Pamphlets Go?

The renewed activities of the CAP program for the autumn months have created increased demands for many of the materials available for distribution to lay persons.

"It's No Bargain," new booklet intended for women readers, is off the press and available for requisitioning along with those previously developed by MSMS and the AMA.

Please check your materials so that you can reorder from the list printed below. Direct your

requests to the MSMS, 2020 Olds Tower, Lansing 8, Michigan.

Materials Available in Unlimited Quantities

- No. 17 *Government Medicine in New Zealand*—A. Lexington Jones, D.D.S., M.D., of New Zealand. (Its social, economic, and political implications.)
- No. 18 *Compulsory Health Insurance*—This is the first of the AMA pamphlets and is on the order of "Uncle Sam, M.D."
- No. 23 *American Medicine Answers President Truman*—Elmer L. Henderson, M.D.
- No. 24 *The Voluntary Way Is the American Way*. Fifty questions and answers.
- No. 25 *Your Medical Program . . . Compulsory or Voluntary?* A comparison of compulsory and voluntary health insurance.
- No. 26 *It's No Bargain*. This is slanted to the woman reader and is intended as a shopping guide for voluntary vs. compulsory health insurance.

Materials Available in Limited Quantities

- No. 1 *Analysis of the Ewing Report*—J. S. DeTar, M.D., Milan, Michigan.
- No. 2 *Uncle Sam, M.D.* Shows socialized medicine as an economic threat.
- No. 4 *Brookings Institution Report Conclusions*. Results of an unbiased survey.
- No. 5 *Doctor My Statistics Feel Funny*. Analysis of draft rejection figures.
- No. 6 *Socialism, A Politicians Paradise*—Henry J. Taylor.
- No. 7 *A Step in the Wrong Direction*—Dorothy Thompson.
- No. 11 *Michigan's Progressive Voluntary Health Program*—H. W. Brenneman.
- No. 12 *Porter on Health Insurance*. Reprint from the *Cleveland Plain Dealer*.
- No. 16 *The 12 Points of the AMA*.
- No. 19 *Forcing Socialized Medicine on America*—Hon. Forest A. Harness. Address telling of the use of Federal employes and funds to further the cause of socialized medicine.
- No. 21 *Pickpocket Medicine*—John L. Bach.

The large and small posters of "The Doctor" are also available in limited quantities.

Introducing Your PR Field Secretaries

The inception of the CAP program brought with it the need for additional professional public relations personnel to work with members of the medical profession throughout the state. In the months that have passed since they first began

(Continued on Page 1218)

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**WRITE TO
PROFESSIONAL
DEPARTMENT
FOR
INFORMATION**

Introducing Your PR Field Secretaries

(Continued from Page 1216)

their travels, many of you have become acquainted with the new members of the MSMS staff. Due to a combination of circumstances, however, some of you may not have had the occasion to personally meet them. In order that you may become better acquainted, we are re-introducing them through the columns of THE JOURNAL.

Russell Staudacher



Associate Public Relations Counsel and Public Relations Field Secretary for Central Michigan, Russell Staudacher comes to MSMS from Saginaw. Mr. Staudacher, thirty-four years old, is a graduate of Alma College where he majored in History, English and Education. During his college years he served as Public Relations Di-

rector for the College as well as writing for the three news wire services, AP, UP and INS.

Following college Mr. Staudacher worked in advertising and sales promotion activities until the start of World War II. He entered the Air Force as a private in 1942 and left the service as a Major in 1946. During his military career he acted as Public Relations Officer with the Air Force in the European Theater and in 1946 witnessed the atomic tests at Bikini in the same capacity.

Following his discharge, he was employed as advertising manager for a weekly paper. In 1947 he accepted a position as Field Representative of a Public Relations Counseling organization in St. Louis, Missouri, leaving this position for his employment with MSMS.

John Guy Miller



John Guy Miller, Public Relations Field Secretary for Wayne County and the Eastern half of Michigan is a native of Missouri. Mr. Miller, thirty-three, is a graduate of the University of Missouri where he majored in English and History.

Following graduation Mr. Miller entered the teaching profession, leaving that field in 1939 for a term of employment with the Equitable Life Insurance

Co. of Iowa. Immediately prior to the war he was Operations Engineer for several construction projects in his native state.

John Guy Miller entered military service in 1942 as a private in the Marine Corps. After much overseas duty Miller was discharged with the rank of Captain in the Reserve Corps.

Journalism next occupied Mr. Miller's time as he edited a weekly legal newspaper in Ferguson, Missouri. He left the publishing field to become Field Director for a nationally known public relations firm from which position he entered the medical public relations field for MSMS.

Stuart Campbell



Stuart ("Scotty") Campbell who covers the Western and Northern areas of Michigan for the MSMS is a native of Iowa. Mr. Campbell came to Michigan directly from a position as Public Relations Director with the Nebraska Blue Cross and Blue Shield Plans.

Mr. Campbell, forty-six, attended Kansas University where he majored in Business Administration. Employment in the years following college included several years in the Securities Department of a Topeka trust company and five years as district representative for a national fire and casualty insurance company.

Mr. Campbell has extensive experience in the medical-socio-economic field, having directed enrollments in the Kansas Blue Cross Plan before leaving to work with the same plans in Nebraska. Mr. Campbell is married and has two children.

Editorial Bouquets

Leadoff position in this month's column goes to many physicians who gave time and energies to bring about the defeat of the President's Reorganization Plan No. 1 and several other measures before the Congress . . . some of the workers reported to this office as doing outstanding work were S. W. Hartwell, M.D., Muskegon; C. B. Gardner, M.D., Lansing; E. C. Texter, M.D., Detroit; C. E. Umphrey, M.D., Detroit; Harold B. Fenech, M.D., Detroit; C. A. Payne, M.D., Grand Rapids; A. L. Arnold, M.D., Owosso; R. C. Pochert, M.D., Owosso; K. H. Johnson, M.D., Lansing; L. C. Harvie, M.D., Saginaw;

(Continued on Page 1220)



For the public good

The health and well-being of at least 1,000,000 Americans depends upon their discovery and treatment as diabetics. The American Diabetes Association is directing the year-round Diabetes Detection Drive to find the "1,000,000 unknown diabetics" and guide them to their own physicians for treatment.

THE AMES **Selftester** (TRADEMARK)

AT ALL
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brings those with glycosuria to you for diagnosis.

A simple home screening test for urine-sugar, the Ames Selftester* is a new approach to this detection problem. Like the clinical thermometer, it is sold directly to the public through drugstores. Also like the thermometer, it does not give a diagnosis, but only a warning.

the directions state:

1. The Selftester does not diagnose diabetes or any other disease. Its sole function is the detection of sugar (glucose) or sugar-like substances.
2. If reaction is positive, see your doctor at once. Sugar in your urine does not necessarily mean you have diabetes (nor does a negative result definitely exclude the presence of disease). But only your doctor, by medical examination and by additional laboratory tests, can tell why you show sugar.

THE AMES **Selftester** to detect
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THE DIABETIC

*Approved by the Council of the American Diabetes Association and accepted for advertising in publications of the American Medical Association.



AMES COMPANY, INC • ELKHART, INDIANA

Editorial Bouquets

(Continued from Page 1218)

W. J. Herrington, M.D., Bad Axe; W. E. Barstow, M.D., St. Louis; W. S. Jones, M.D., Menominee C. A. Paukstis, M.D., Ludington; R. W. Teed, M.D., Ann Arbor; E. A. Oakes, M.D., Manistee; J. D. Miller, M.D., Grand Rapids; P. L. Ledwidge, M.D., Detroit; B. T. Montgomery, M.D., Sault Ste. Marie; E. A. Osius, M.D., Detroit; J. R. Doty, M.D., Lapeer; L. J. Garipey, M.D., Detroit; E. F. Sladek, M.D., Traverse City . . . The doctors listed above are only a few of the hundreds who took action—and won handsomely . . . Especial mention should be made of the work of Richard D. Mudd, M.D., Saginaw, who drafted and sent an excellent letter to his patients telling of the dangers of plan No. One and asking their support . . . Milan, Michigan, also contributed sixty letters and wires through efforts of J. S. DeTar, M.D. . . . Women in the news include Mrs. R. M. Leitch, Union City, president of the Branch County Auxiliary, whose well-informed speeches about socialized medicine in England (having lived under the system for some time) have been well received. Mrs. Leitch is averaging two speeches a week throughout South-eastern Michigan . . . Still on the feminine side: "honors" to Mrs. R. S. Breakey, Lansing, Auxiliary PR Chairman, for her excellent organizational chart printed in the Auxiliary Bulletin for September and for her work on the CAP program in general . . . Credit Stanley Lowe, M.D., Battle Creek physician, for his speeches detailing conditions in England which he knows first hand and for his splendid work in poster distribution—had window display in local bank window plus others in drug stores, hospitals, etc. . . . Flint's J. L. Leach, M.D., again must be singled out for his intensive efforts re voluntary medicine at the National Medical Association Convention in Detroit—he has also reported resolutions against socialized medicine from thirty-one negro organizations in Michigan . . . Robert Greenidge, M.D., Detroit, is also congratulated for his work in setting up the booth at the NMA meeting . . . Re Auxiliary—Much of success of women's CAP work is due to plans of Mrs. W. L. Dixon, Grand Rapids, immediate past president, and Mrs. Don Wright, Flint, new auxiliary leader . . . Wm. S. Reveno, M.D. and H. A. Lichtwardt, M.D., of Detroit appeared on a socialized medicine panel

at Adult Education Council meeting in Battle Creek, October 11. They participated with Frank Woodford, Detroit "Free Press" and Dean Emil Loeffler of Albion College . . . T. S. Conover, CAP Chairman for Genesee County, is planning a CAP Bulletin designed for his entire membership—he is also to be congratulated for his work at the August meeting of the National Medical Association . . . Wayne County Medical Society Speakers Bureau under leadership of J. A. Witter, M.D., is going full "blast"—Requests for speakers are being received daily . . . CAP lost one of its workers when Miss LaRita A. Jones resigned as PR Field Secretary to the Woman's Auxiliary to marry Mr. Robert H. Brown of Chicago, PR Counsel for the Illinois Central R.R. . . . Our best wishes to the newlyweds who were married "south of the border—down Mexico way." . . . Dan Cupid also stole the last single girl in the Public Relations office when Betty Brown went Angolaward one weekend and returned as Mrs. Donald Linton . . . C. Allen Payne, M.D., Grand Rapids, and R. A. Johnson, M.D., Detroit, performed nobly as Chairmen of the Press Committees for The House of Delegates and Postgraduate Conference, respectively, at the MSMS Annual Session in Grand Rapids . . . Owosso's "Perfect Host" came through again as C. L. Weston, M.D., made perfect arrangements for the July meeting of the PR Committee . . . MSMS and the CAP program were brought to Jackson County citizens through an exhibit at their annual Fair—G. R. Bullen, M.D., was in charge of the display . . . Northern Michigan County Medical Society continues its CAP progress "sparked" by energetic G. B. Saltonstall, M.D., of Charlevoix . . . Mrs. William Mackersie, Detroit, has her public speaking talks scheduled as far ahead as January 13, 1950 . . . Outstanding project in Wayne County is the hospital bulletin board program with Roy C. Kingswood, M.D., leading the way with his model setup at Woman's Hospital . . . There is much more being accomplished than we can show in this brief column—so why not report your new and unusual projects to your CAP leader or PR Field Secretary—in this way the entire state can be made aware of what others are doing to further the CAP program.

L. W. HULL, M.D., *Chairman*
Special Committee on Education.

*"It is well to moor your bark
with two anchors."*

PUBLILIUS SYRUS, MAXIM 119

For safe mooring in the "snug harbor" of vitamin adequacy, the best twin anchors are balanced diet and vitamin supplementation.

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Cancer Comment

CANCER EDUCATION IN SCHOOLS

With the beginning of another school year, the problem of what to teach pupils and particularly high school pupils about health comes into prominence. While protection from communicable diseases, sanitation and good personal hygiene practices are important elements of this health teaching, the subject of cancer control should also be prominently emphasized.

In many high school assemblies and classrooms physicians will be called on to discuss health measures. In so doing they should realize that high school students of today have a much broader knowledge of many social and scientific problems than their predecessors of a generation ago. No one attempting to inculcate health knowledge into high school students should underestimate their ability to assimilate scientific information.

The old idea that high school students should not be told anything about cancer because it would only increase their fears of the condition as they grow older has been superseded by the knowledge that such age groups compose the most favorable groups for cancer education. Many of these young folks have had first-hand experience with cancer in their own homes or homes of friends and with their better training in science can grasp simple scientific discussions without difficulty.

All these facts are well known to physicians with experience in talking to high school students individually and in groups.

When cancer is explained to high school students as a biological growth of living cells that have thrown off the influences that control normal growth, the subject becomes a problem in biology rather than in disease. The description of advanced cancer and its ravages has no place in cancer education—least of all in high school health instruction.

As soon as a student knows what a cell is and the part it plays in the organization and functioning of living tissue, he is ready to be told the facts about the nature, cause, treatment and prevention of cancer insofar as they are known today. Being trained in the acquisition of knowledge, students often have a better grasp of this information than do their parents. When presented as a problem involving a knowledge of biology, physics and related sciences, the student approaches the subject as a matter of useful knowledge rather than a sinister thing to be avoided at all cost.

Not only do high school students profit from a knowledge of cancer in their own protection, but many times they influence parents to take action regarding a long-neglected condition that the student has learned to suspect as being cancer.

Physicians often can render a distinct service to their communities by bringing the facts about cancer to high school students. They should willingly participate in high school cancer education whenever invited to do so. When physicians realize that cancer causes more deaths in Michigan each year in children under 20 years of age than do measles, diphtheria, acute rheumatic fever, poliomyelitis, scarlet fever, whooping cough or tuberculosis—and often more than the combined deaths from many of these diseases, they will know that there is a great need for cancer education in the younger age groups.

By taking part in this widespread educational effort whenever the opportunity offers, physicians will be rendering a distinct service in the health maintenance program in their own communities.

Rectal palpation may detect the early, and hence only curable cancer.

Hematuria must be explained; is the cause cancer?

Meyer Institute of Body Culture

Massage and Swedish Movements—Medical Gymnastics

Separate Departments for
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*The Newest and
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OCTOBER, 1949

Say you saw it in the Journal of the Michigan State Medical Society

1223

Editorial Comment

AGENDA, CONTINUED

Following the plan of last month, we are continuing the editorials from the *Detroit Medical News*, "Agenda."

Agenda—5

Several accessory phenomena in the problem of the extension of voluntary prepayment plans must be included in the agenda. They are related to the extent of mass coverage necessary or desirable (not equivalent terms) in the extension of medical care. One involves the management of the care of the indigent.

It can be stated that there is general acceptance by the tax-paying public of the responsibility dependent on it to provide medical care as well as other necessities to that portion of its regional population which is no longer self supporting. It may well be that the sole social reform of the new deal years was the recognition generally that there is a segment of the population which is no longer contributory to the area, but dependent in whole or in part on other citizens. It can be said that the liberality of care and other perquisites provided from the tax rolls is greatly related to the social consciousness of the area involved. It is obvious that while there is a variable element of political machination in the operation of such programs, still the indigent receives care related to the level of the area at point, and that there will be considerable variation in what is provided as one compares state with state, county with county, city with city, or entire geographic areas with one another. But these are still equivalent services in relation to the general picture of the regional population group.

Now, with this group in a given area already receiving care from the tax rolls, there is raised the question if it would not be expedient from a fiscal point of view, or better psychologically for the alms-recipient, if he were provided with a policy in some sort of prepayment system, underwritten by the tax unit in question and paid for by the funds already specified for medical care or what-not, in order to give him access to a level of care comparable to that available to the taxpayer or the prepayment insurance premium payer. The more liberal speakers decry the utilization of the "means test" in the determination of need for medical care or other services without recalling that this individual has exceeded any need for the means test and that tax funds are already segregated for him.

Taxpayers generally have seen this shift occur already. Many who would otherwise be pensioners of a local tax unit have now become pensioners of the federal government through the Veterans Administration and the non-service-connected disability, and, with no actual utilization of the means test or other classifying mechanics, have thus been translated from the financial responsibility of a local to a larger governmental unit. And if this process is to expand, as seems probable, there is

serious question if any voluntary prepayment system needs to go through a complicated gestation in order to include persons who already are, and traditionally have been supported by tax funds.

Agenda—6

If the voluntary prepayment plan operates at a loss, several things can be said to have occurred. The indemnifying rate is too low for the magnitude of the service provided. There has been an actuarially unpredictable demand for the services offered. There has been unwarranted abuse of the elective procedures provided by the plan. There have been included poor risk, actually unseasoned groups within the participants, increasing the demand for services.

In a recent experience of Michigan Medical Service with the Kaiser-Frazer U.A.W.-C.I.O. contract, the plant has lost a considerable amount of money, despite comment to the effect that the premium payments have exceeded the benefits received, which happens not to be so. Any, and perhaps all of the above factors have been involved in this imbalance. There is always a seasonal imbalance beginning in June, and periods of unemployment have always increased the demands on the plan.

The obvious solution to this problem is the adjustment of rates so that loss will not occur. As things now stand, most prepayment plans are offering indemnification rather than coverage for services provided for the reasons cited in earlier articles in this series, but principally because the fee schedule and the premium rate have not followed the upward advance of the cost of other commodities. Loss in the voluntary system does not permit the type of adjustment possible when tax funds are available as the amortizing agency.

WILLIAM BROMME

"PHYSICIANS—WAKE UP!"

It is much later than it should be for the individual physician to realize, to have burned into his soul, as it were, that he is in reality two persons in one. He is first a physician, a member of a great profession, legally entrusted with the care of the sick, and, second, he is a citizen of these great United States.

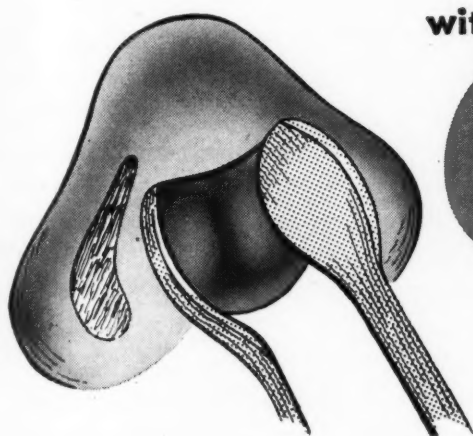
One is as important as the other. If he neglects to exercise his functions as a citizen, here and now, he might, in the not distant future, wake up to find himself not only without rights as a citizen, but also, at the same time, a paid clerk of a bureaucratic government. His great profession, with its ideals and ethical standards, will be but a memory, and his position will be one without honor—without dignity.

A group of moral teenagers are endeavoring to

(Continued on Page 1226)

in hay fever...

- ...Nasal Engorgement Reduced
- ...Soreness, Congestion Relieved
- ...Aeration Promoted
- ...Drainage Encouraged



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NEO-SYNEPHRINE[®]

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When Neo-Synephrine comes in contact with the swollen, irritated mucous membrane of the nose, the patient soon experiences relief.

This powerful vasoconstrictor acts quickly to shrink engorged mucous membranes, restoring easy breathing, and promoting free drainage.

The prolonged effect of Neo-Synephrine makes fewer applications necessary for the relief of nasal congestion — permitting longer periods of comfort and rest.

Neo-Synephrine does not lose its effectiveness on repeated application . . . It may be employed with good results throughout the hay fever season . . . It is notable for relative freedom from sting and absence of compensatory congestion . . . Virtually no systemic side effects are produced.

Supplied as:

¼% and 1% in isotonic saline solution
—1 oz. bottles.

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OCTOBER, 1949

Say you saw it in the *Journal of the Michigan State Medical Society*

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"PHYSICIANS—WAKE UP!"*(Continued from Page 1224)*

entrap us by misinterpreting the maxim that "the common good has priority over the individual good." Their emotions are unbuttoned, and they have but a slight acquaintance with the commandment, "Thou shalt not bear false witness."

The physician as a citizen should fight for the right interpretation of the above maxim: That, in matters of health, he best serves the common good who has the liberty to advance and improve the present system of practice. No one knows as well as he what the common good is in this regard. No one knows better than himself the evils that would follow the regimentation of his beloved profession. He, himself, would be transformed from a physician into a filler of blanks, and his ability to devote himself wholeheartedly to his patients would come to a sudden stop.

Far above this, the patient would be an even greater loser.

The combating of this impending evil cannot be shifted by the physician to the AMA, or to his state or county society officials—although these should have his complete support and co-operation.

This is a personal problem of every physician in the United States. This is a patriotic duty. If he has never been in a fight before, he is in one now, whether he knows it or not, and it is a fight to the finish.

If he knows the enemy is advancing along a road that leads directly to everything near and dear to him, he should not ask any one to carry his rifle!

Physicians—wake up!

—Editorial, *New York State Journal of Michigan*, Sept. 1, 1949.

THE VOLUNTARY APPROACH TO HEALTH INSURANCE

Obscured by much of the propaganda circulated to bolster the cause of what opponents call "the welfare state," voluntary health insurance in the United States has been making spectacular though largely unheralded strides in the last decade.

Figures from the health insurance council of the Institute of Life Insurance show that well over half the labor force of the nation today has some form of group benefits under voluntary plans to protect them from loss of income due to disability. The figure is 33,410,000 workers, an increase of 2,186,000 in 1948 alone.

This is but one phase of voluntary health insurance. Two out of every five Americans have voluntary protection against costs of hospital care.

One in four has similar insurance against surgical expense.

It was only in 1930 that Blue Cross organizations first made their appearance, with hospital expense coverage. Insurance companies entered the field on a group basis in 1934. The first surgical expense insurance was offered 11 years ago and medical care nine years ago.

It is medical expense insurance that is growing most rapidly. Coverage increased 45 per cent in 1948 to embrace 12,895,000 Americans.

There can be little doubt of the growing public acceptance of the idea that hospital, surgical, medical and lost-income aspects of the cost of good health can be insured to good profit for the individual, the family and the state as well.

The biggest problem in the whole voluntary undertaking is rising costs of such care. Like most every other goods and service in growing demand in the war years and the postwar era, voluntary health insurance was and is subject to inflationary factors.

But so is state medicine.

The problem in the state of Washington, with a widened social security program incorporating health for the aged, affords a dramatic example. There in Washington a program that has been operating only since January has already threatened that state with bankruptcy. Costs of medical care have doubled under the program.

For those who cry the wares of the welfare state, the experience of Washington state should be a warning. On the other hand, progress made in voluntary plans, for all the rise in costs of the care afforded, should make it apparent that a growing voluntary program, based on the economic capabilities of the insured, provides a more solvent foundation on which to build than does the welfare state idea—so dramatically shown up in Washington state, and in England.—Editorial, *Battle Creek Enquirer News*, August 18, 1949.

AS WE SEE IT

Having refused President Truman's request for a new department which would include welfare, health and education and be headed by a Cabinet officer, the Senate changed course and accepted two other reorganization plans.

They involved the transfer of certain bureaus to new department jurisdictions. Four other executive department changes will occur automatic-

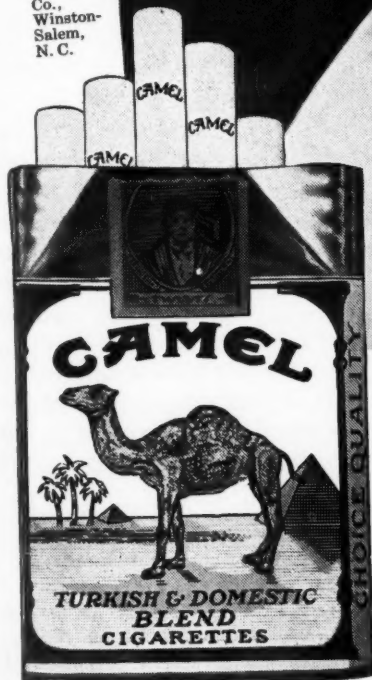
(Continued on Page 1263)

30-DAY TEST REVEALED

"Not one single case of throat irritation due to smoking Camels!"

Yes, that's what throat specialists reported after making weekly examinations of the throats of hundreds of men and women from coast to coast who smoked Camels, and only Camels, for 30 consecutive days.

R. J. Reynolds Tobacco Co., Winston-Salem, N. C.



According to a Nationwide survey:

More Doctors smoke Camels
than any other cigarette

When three leading independent research organizations asked 113,597 doctors what cigarette they smoked, the brand named most was Camel!

Political Medicine

AMERICAN LEGION AGAINST SOCIALIZED MEDICINE

The American Legion and the Legion Auxiliary, at their national conventions in Philadelphia this year, reaffirmed the stand taken annually since 1945 by adopting a strong resolution against Compulsory Health Insurance.

The Legion, with a National membership of 3,500,000, and the Legion Auxiliary, composed of more than 1,000,000 women, passed the following resolution:

WHEREAS, the American Legion has always had as one of its objectives to foster and perpetuate a 100 per cent Americanism and to safeguard our liberties and freedoms as opposed to any form of compulsion and regimentation, and

WHEREAS, there is now before the Congress of the United States the question of Compulsory Health Insurance which in itself is a threat to our freedom, now

THEREFORE, be it resolved by the American Legion in National Convention assembled August 29-September 1, 1949, in Philadelphia, Pennsylvania, that this organization go on record as opposing any form of Compulsory Health Insurance.

FREE MEDICAL CARE IN ENGLAND FACES CUT IF U. S. REFUSES AID

Britain may have to limit her social services if next month's monetary talks in Washington flop, according to an informant close to the labor government.

The informant, who refused to be identified, said labor leaders might have to start retrenchment by dropping the government's free medical services, if the dollar-pound talks fail.

Fourth of Budget

Britain's social services, together with food subsidies, cost one-quarter of the country's whole annual budget of \$12,000,000,000.

Britons now can call on doctors without paying fees under the 13-month-old national health service, though each pays up to six shillings, eight pence weekly (\$1.33) to help support it.

If the Washington parley fails, the informant said, British leaders may have to consider having each person pay a shilling (20 cents) for each visit.

He explained that the calls on the service have far exceeded advance estimates and, if Britain might tighten her belt, she cannot go on spending so much on the service out of general taxation.

Hold Up Decision

The source said laborite leaders are waiting until the Washington talks are over before deciding whether to call a quick election this year, or carry

on until near the end of their five-year term next July.

He disclosed this as Paul G. Hoffman, American head of the European Co-operation Administration, began talks with British officials before the Washington parley September 7.

The informant said the government expects its gold and dollar reserves to sag more than one-fourth by September 30—down to \$1,200,000,000.

At the end of June, Britain was down to her last \$1,624,000,000. The treasury's goal had been to keep the reserves at a "safe" margin of \$2,000,000,000.

The informant said Britain's balance-of-payments position for the current quarter looks "very grim" despite rigid import cuts.

HATER OF SOCIALIZED MEDICINE THINKS HIGH FEES WILL BRING IT

To the Editor: There is a great deal of controversy today as to socialized medicine. Perhaps you may be interested in the opinion of a "Mr. Average Workingman." Then again you may toss this in the proverbial waste-paper basket. So here goes for better or for worse.

Personally, I do not like socialized medicine. I do not relish having the politicians dab in our health or lack of it.

But socialized medicine is inevitable unless professional men adjust their fees to fit the common man's pocket book. Do they not see the handwriting on the wall?

We, the common workers, are being gouged unmercifully. Why, the average hospital bill looks like the bill for Rita's dowry.

To have babies is really a luxury, for between the Doc and the hospital they will roll you for \$150 to \$200. Try and see!

Oh, what about the dentist? Well they sure can extract more than teeth. They can clean out your billfold faster than a collie pup can lap up milk.

So, I just say personally I have no grudge against you professional boys, but how long do you expect the gravy train to be? If Uncle Truman and his boys get their hooks into all of us, then please don't cry on our shoulder. You brought it on yourselves.—ED ADAMS, *Detroit Free Press*, August 21, 1949.

SOCIALIZED MEDICINE

We are opposed to socialization of business or of our professions by the Government, and we strongly oppose any plan to socialize medicine.—Battle Creek Chamber of Commerce, June 28, 1949.